

+ SWISS DESIGN

# eOne



Instruction manual

## ENVISION CE20





Be sure to keep machine away from static electricity, heat sources, humidity and direct sunlight. When using your sewing machine for a few minutes. Wipe away excess oil.

## IMPORTANT

## SAVE THESE INSTRUCTIONS

1. This machine is equipped with a special connection cord which, if damaged, must be replaced by an identical cord. This can be obtained from your dealer.
2. Always use the proper needle plate. The wrong plate can cause the needle to break.
3. Do not use bent needles.
4. This machine is designed and constructed for household use only. Read all instructions before using this sewing machine.
5. Never operate the machine with any air opening blocked. Keep ventilation openings of the sewing machine and foot control free from accumulation of lint, dust and fibers.
6. Never drop or insert any object into any opening.
7. Do not use outdoors.
8. Do not operate where aerosol (spray) products are being used or where oxygen is being administered.
9. To disconnect, turn machine off, then remove plug from outlet.
10. Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
11. Keep fingers away from all moving parts. Special care should be used around the sewing machine needle.
12. Always use the proper needle plate. The wrong plate can cause the needle to break.
13. Do not use bent needles.
14. Do not pull or push fabric while stitching. This may deflect the needle causing it to break.
15. Switch the machine off when making any adjustment in the needle area, such as threading needle, changing needle, thread bobbin, changing needle, etc.
16. Always unplug the sewing machine from the wall outlet when making any other servicing adjustments or when making any removable covers, lubricating or cleaning any outlet when removing covers, lubricating or cleaning any removable covers, changing needle, thread bobbin, changing needle, etc.

1. Do not allow the machine to be used as a toy.
2. Use this machine only for its intended use as described in this manual. Use only attachments recommended by the manufacturer as described in this manual.
3. Never operate this machine if it has a damaged cord or plug, is not working properly, has been dropped or damaged, or dropped into water. Return the machine to the nearest authorized dealer or service center for examination, repair, electrical or mechanical adjustment, repair, or replacement of parts.

**DANGER - To reduce the risk of electrical shock:**

1. Your sewing machine should never be left unattended when plugged in. Always unplug the machine from the electrical outlet immediately after using and before cleaning.
2. Always unplug before replacing light bulb. Replace bulb with same type rated 13.2 Volts D.C. 3 watts.
3. Do not reach for the machine if it has fallen into water. Unplug immediately.
4. Do not place or store machine where it can fall or be pulled into a tub or sink. Do not place it in or drop it into water or other liquid.

**WARNING - To reduce the risk of burns, fire, electric shock or injury:**

1. Supervision is necessary when this machine is used by or near children.
2. Use only for its intended use as described in this manual. Use only attachments recommended by the manufacturer as described in this manual.
3. Never operate this machine if it has a damaged cord or plug, is not working properly, has been dropped or damaged, or dropped into water. Return the machine to the nearest authorized dealer or service center for examination, repair, or replacement of parts.

Your Elma EnVision model CE 20 sewing machine is designed and constructed for household use only. Read all instructions before using this sewing machine.

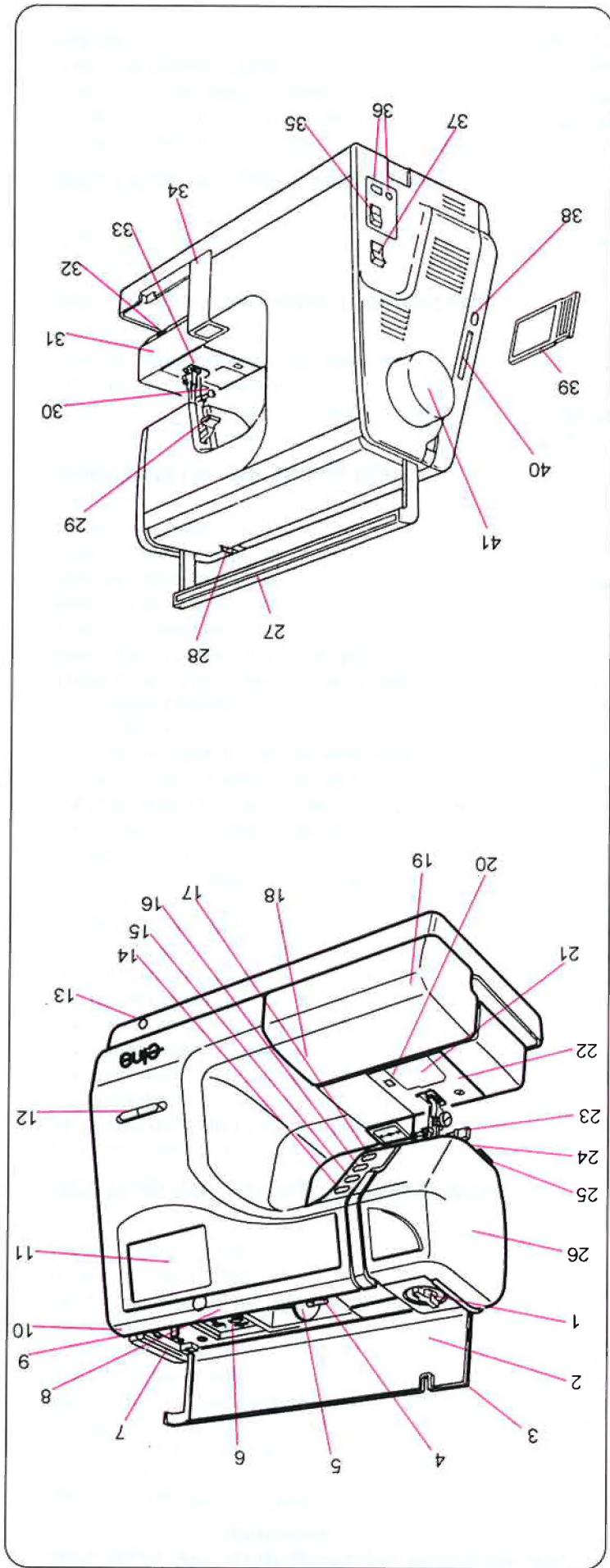
## IMPORTANT SAFETY INSTRUCTIONS

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SECTION I	<b>Machine Parts and Functions</b>



Machine Parts and Functions	
Part Names	
1. Foot Pressure Dial	
2. Sewing Instruction Panel	
3. Top Cover	
4. Spool Pin	
5. Spool Holder (Large)	
6. Foot Compartment	
7. Bobbin Thread Cutter	
8. Computer Display Screen Brightness Control	
9. Bobbin Winder Spindle	
10. Bobbin Winder Stopper	
11. Computer Display Screen	
12. Speed Control Lever	
13. Knee Lifter Hole	
14. Up/Down Needle Key	
15. Auto-Lock Key	
16. Reverse Key	
17. Start/Stop Key	
18. Fine Adjustment Dial	
19. Extension Table (Accessory Box)	
20. Bobbin Cover Plate Release Button	
21. Bobbin Cover Plate	
22. Needle Plate	
23. Needle Threader Lever	
24. Buttonhole Lever	
25. Thread Cutter/Holder	
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30. Needle Clamp Screw	
31. Free Arm	
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33. Carriage	
34. Power Switch	
35. Machine Sockets	
36. Card Effect Button	
37. Light Switch	
38. Envision Card™	
39. Flywheel	
40. Envision Card Slot	

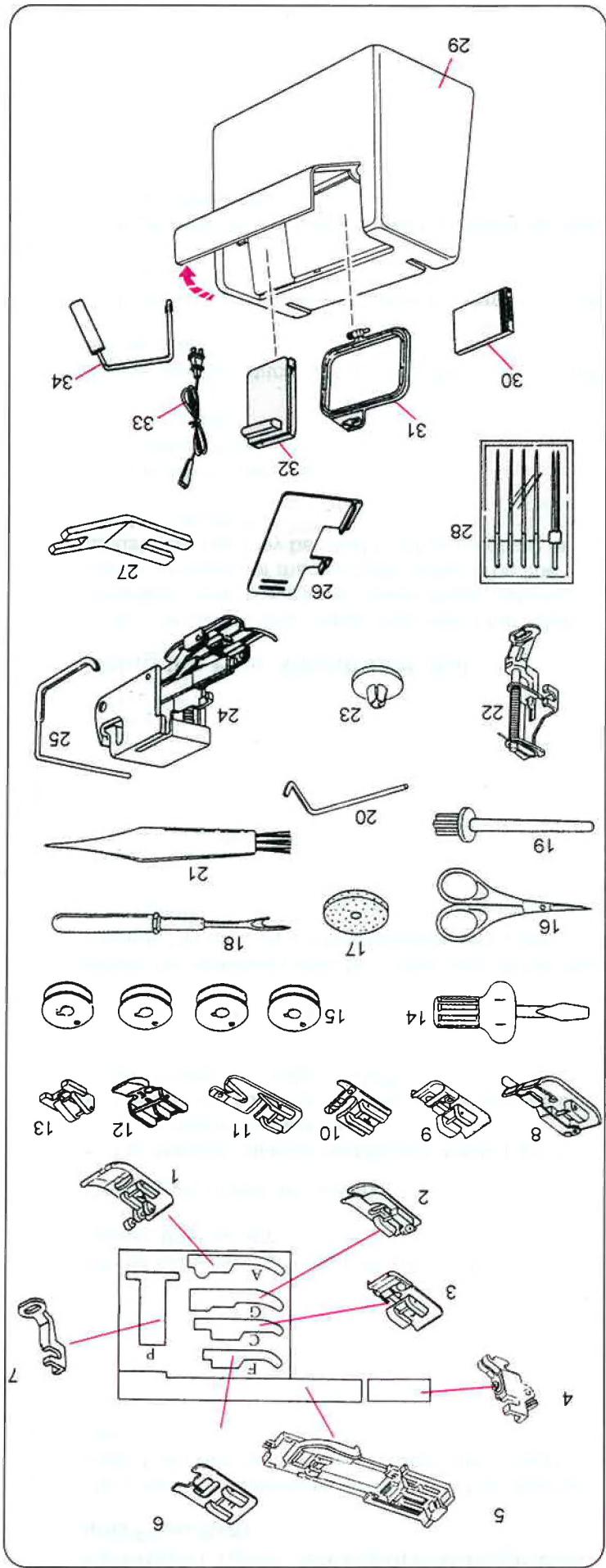


## SECTION I

### Standard Accessories

1. A: Metal Foot
2. G: Blind Hem Foot
3. C: Overlock Foot
4. Shank
5. R: Automatic Buttonhole Foot
6. F: Satin Stitch Foot
7. P: Embroidery Foot
8. O: Patchwork Foot (1/4" Foot)
9. M: Overcasting Foot
10. H: Multi-Cord Foot
11. D: Hemmer Foot
12. E: Zipper Foot
13. T: Button Sewing Foot
14. Screwdriver
15. Bobbins
16. Scissors
17. Spool Pin Feet
18. Seam Ripper
19. Additional Spool Pin
20. Quilting Bar
21. Lint Brush
22. P2: Darning Foot
23. Small Spool Holder
24. Walking Foot
25. Walking Foot Quilting Bar
26. Cloth Guide
27. Button Shank Plate
28. Set of Needles
29. Carrying Case
30. Envision Card
31. Embroidery Hoop
32. Foot Control
33. Power Supply Cord
34. \* Knee Filter

\* Some countries do not include knee filter feature.



**Using the Fine Adjustment Dial**

Choice of fabrics and threads may affect the stitch length.

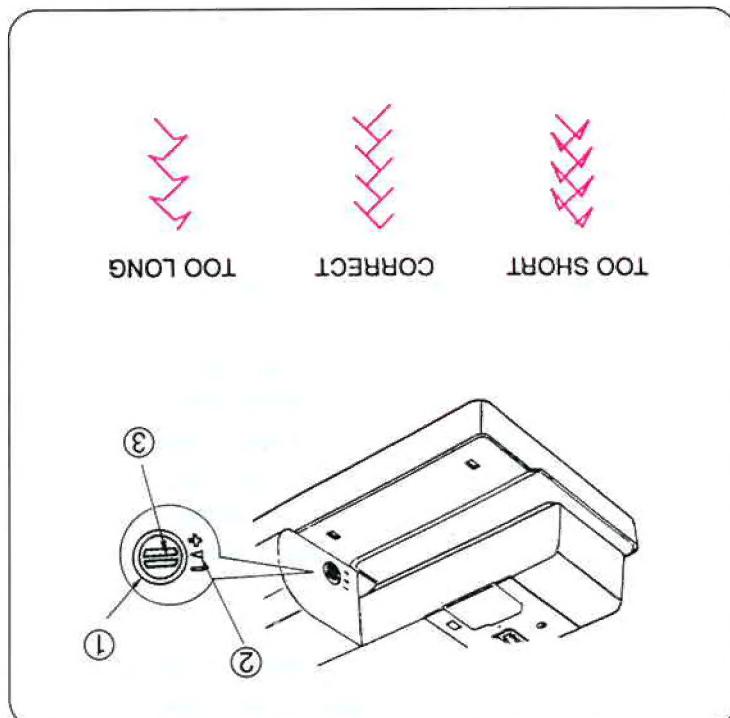
Information when sewing decorative stitch patterns, letters, numbers or manual buttonholes. The fine adjustment dial may be used to either lengthen or shorten the stitch.

To fine tune the stitch, use a screwdriver to move the setting mark.

If stitches are too short, correct by turning the dial in the direction of “+”.

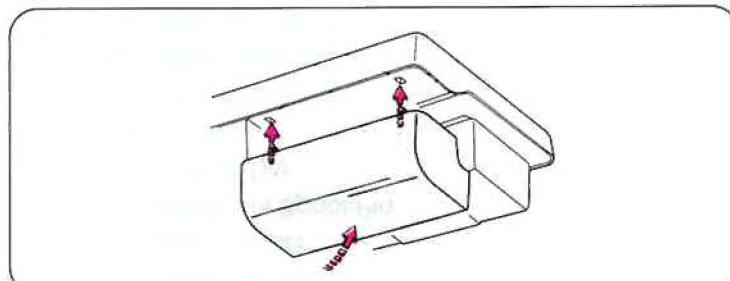
If stitches are too long, correct by turning the dial in the direction of “-”.

If stitches are too long, correct by turning the dial in the direction of “-”.



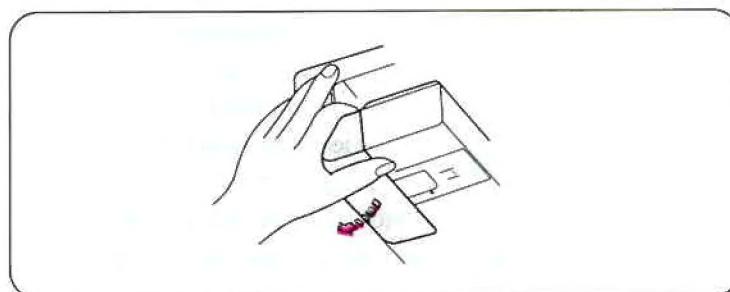
Attach the extension table for a large sewing surface.

Position the tabs on the base grooves and push down gently.



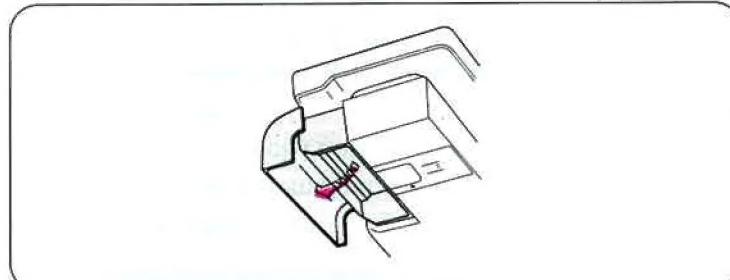
Advantages of free arm sewing:

- Expose the free arm.
- Lift the extension table up from the machine to expose the free arm.
- For stitching sleeves, waistbands, pants legs or any circular garment area.
- For darning socks or mendling knees, elbows or worn areas in children's clothing.



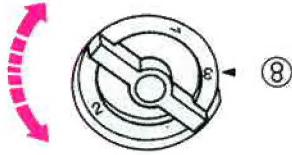
Many sewing accessories are stored in the extension table. Pull cover towards you to open the storage box.

**Extension Table Accessory Storage Box** and Free Arm



### ⑧ Setting mark

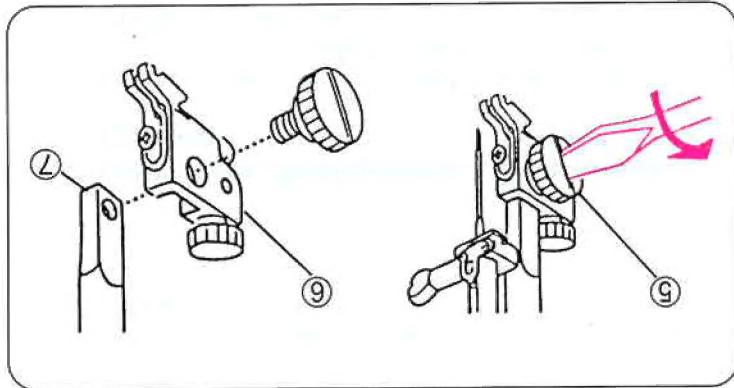
Velours and knits with a lot of stretch may require a "1" setting.  
The foot pressure dial should be set at "3" for ordinary sewing. Reduce the pressure to "2" for applique, cutwork, drawn work, basting and embroidery.



### Foot Pressure Dial

#### ⑦ Presser bar ⑥ Shank

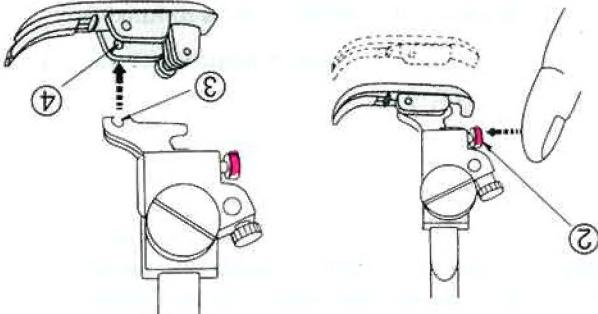
Tighten thumbscrew by turning it clockwise.  
When attaching, match the hole in the shank with the hole in the presser bar. Put thumbscrew in hole.  
The shank is removed by turning the thumbscrew counter-clockwise with the screwdriver.



### Attaching and Removing the Shank

#### ④ Pin ③ Groove ② Red button

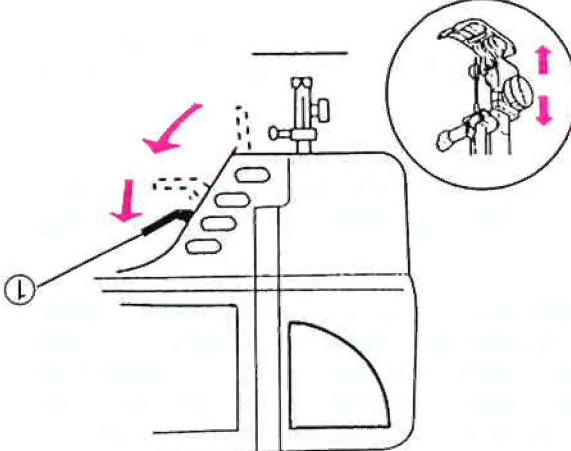
Press the red button on back of the shank. The presser foot will drop off. Place the selected presser foot so the pin on the foot lies just under the groove of the shank. Lower the presser bar to attach the foot.



### Attaching and Removing Presser Feet

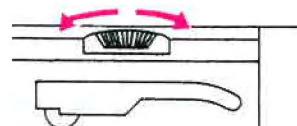
#### ① Presser foot lever

You can raise the presser foot about 6.5 mm (1/4") higher than the normal up position for easy removal of the presser foot, to place heavy fabrics under the foot. Pull up the presser foot lever beyond the normal up position.



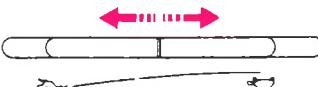
### Additional Presser Foot Clearance

Display screen lightens or darkens for visibility by turning the dial located under the top cover in front of the foot compartment.



### Computer Display Screen Brightness Control

To decrease sewing speed, slide the lever to the left.

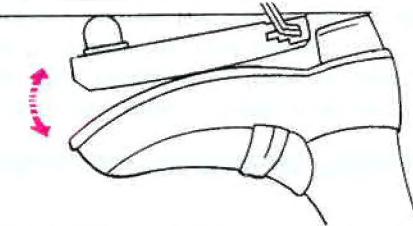


To increase sewing speed, slide the lever to the right.

Maximum sewing speed can be preset by adjusting the speed control lever.

### • Speed Control Lever

Sewing speed varies with the foot control. The harder you press on the foot control, the faster the machine runs.



### • Foot Control

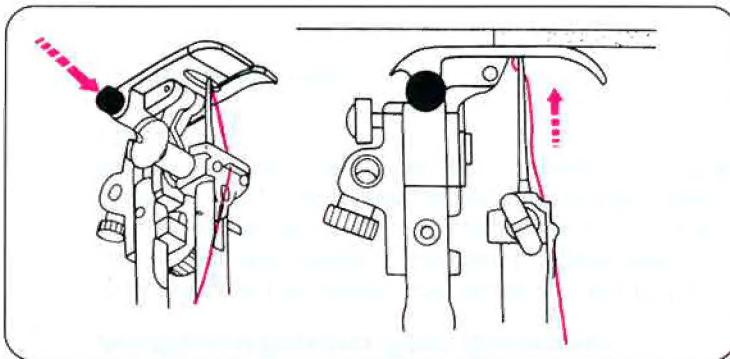
### Controlling Sewing Speed

This button releases automatically after a few stitches have been sewn.

When the point of an increased thickness is reached, lower the needle and raise the presser foot. Press in the black button. Lower the foot and continue sewing.

The horizontal position when pushed in before lowering the presser foot. This ensures even feeding at the beginning of seams and helps when sewing many layers of fabric while hemming jeans that have wet seams.

### Sewing on Heavy Fabrics

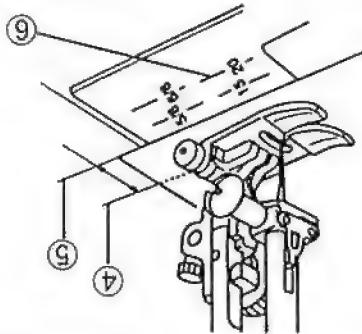


- ⑥ Edge of fabric
- ⑤ Center needle position
- ④ Needle plate guide lines

Lines on needle plate	15	20	4/8"	5/8"	6/8"
Millimeters					

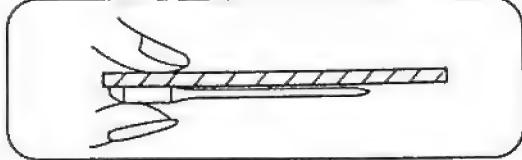
- The number indicates the distance between the center needle position and the seam allowance line.
- The lines on the needle plate and bobbin cover plate help measure seam width.

### Seam Allowance Lines



The gap between the needle and the flat surface should be consistent. Never use a bent or blunt needle. It may cause skipped stitches or thread breakage. Defective needles can ruin the fabric. Always purchase good quality needles. Change needle often.

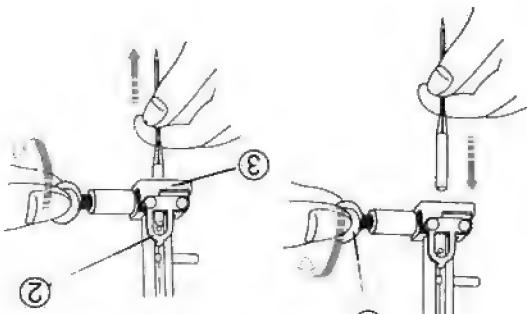
- 3 To determine if the needle is defective, place the flat side of the needle on something flat (a needle plate, glasses, etc.).



3

When inserting the needle into the clamp, push it up as far as it will go and tighten the clamp screw firmly.

- 2 Remove the needle from the clamp. Insert the new needle into needle clamp with flat side to the back.



1

- 1 Raise the needle by pressing the up/down needle key. Lower the presser foot.

Turn off the power switch.

- 1 Raise the needle by pressing the up/down needle key. Lower the presser foot.

### Changing Needles

position.  
See page 26 to use the [Adj] key for feed dog

- When the embroidery modes are selected, is pressed.
- When the patchwork mode – freehand quilting key

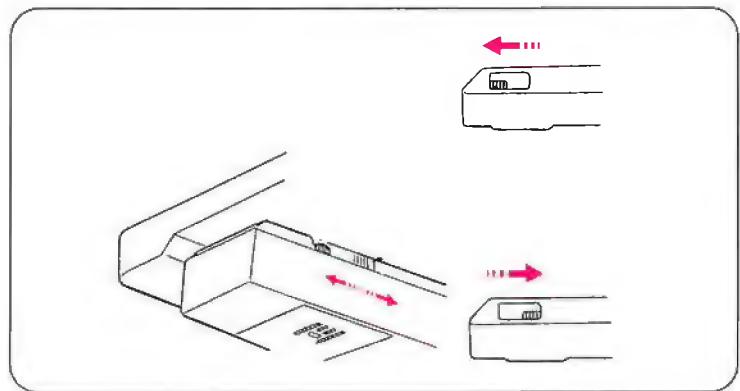
The feed dog lowers automatically:

(up).

Slide the feed dog lever either to the right (down) or to the left (up).  
Locate the feed dog techniques such as free motion embroidery. You may lower the feed dog manually for special sewing techniques such as free motion embroidery.

The feed dog must always be up for ordinary sewing.

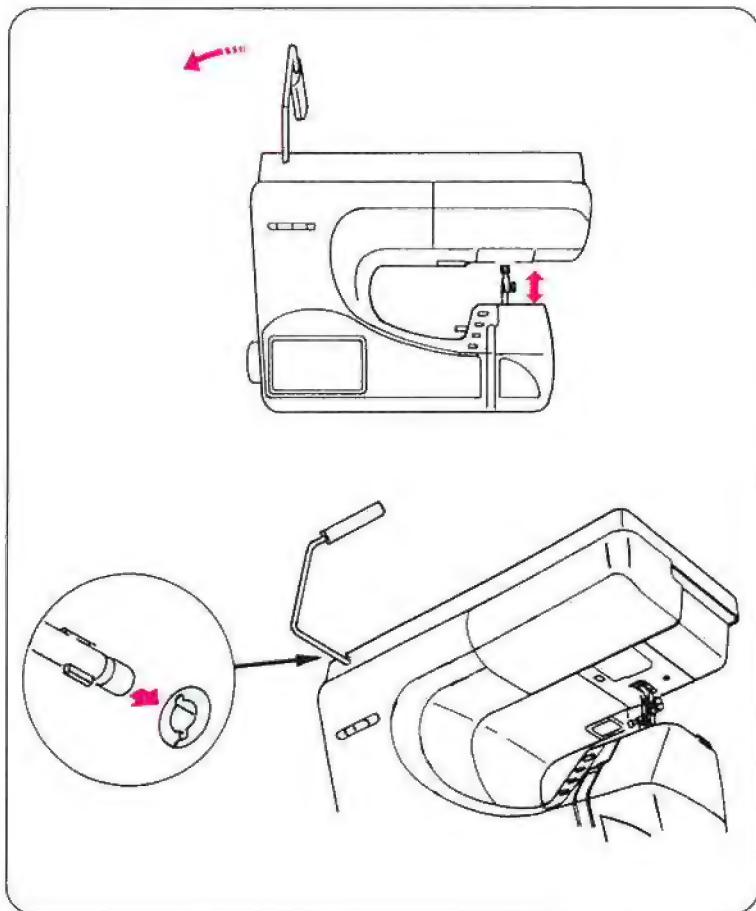
### How to Lower the Feed Dog



\* Some countries do not include the knee lifter feature.

- Insert the knee lifter in the knee lifter hole. (Match the tab on the lifter with the notch in the hole.)
- Pressure bar rises equal to the amount of the knee lifter.

The knee lifter allows you to raise or lower the presser foot without using your hands. This is especially beneficial when pivoting corners or while sewing patchwork pieces.



### How to Attach the Knee Lifter

## FUNCTION KEYS

① **UP/Down Needle Key**

When you press this key:

If the needle is up, the needle will immediately go to its lowest position.

If the needle is down, the needle will immediately go to its highest position.

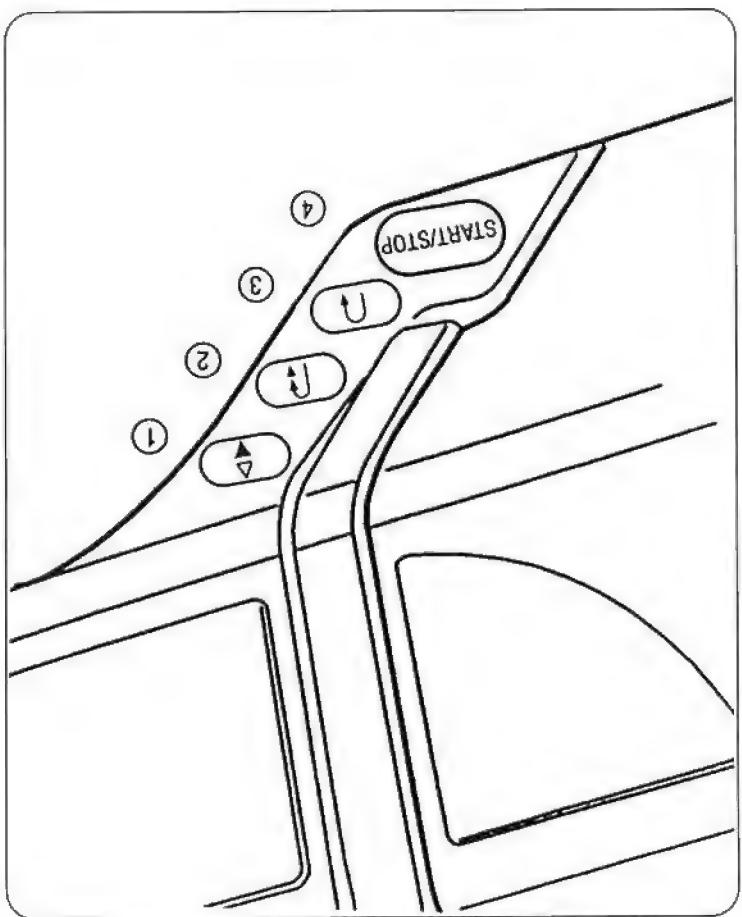
② **Auto-Lock Key**

Press this key while sewing a straight stitch, zigzag stitch, zigzag stitch or multiple zigzag stitch (stitches 1, 2, 8 and 9), and the machine will sew a few stitches in place and stop automatically. Press this key while sewing utility or decorative stitches (stitches 1, 2, 8 and 9), and the machine will complete the stitch, locksitcch and stop.

③ **Reverse Key**

If you are sewing a straight stitch, zigzag stitch or multiple zigzag stitch (stitches 1, 2, 8 and 9), press this key until you release the key. The machine will sew in reverse until you release the key. And hold the reverse key. The machine will sew in reverse until you release the key.

If you are sewing utility or decorative stitches, if you are sewing utility or decorative stitches, when you press this key the machine will immediately stop and sew a locking stitch.



**NOTE:** The light on the key changes from green to red while sewing.

The start/stop key operates the machine when sewing automatic embroidery. It may also be used for ordinary sewing. Press the key and the machine speed is determined by setting the speed control lever. See page 7.

SECTION II

## Getting Ready to Sew

- Check your needles frequently for rough or blunt tips.
- Snags and runs in knits, fine silks and silk-like fabrics are permanent and are often caused by damaged needles.
- When sewing stretch, very fine or synthetic fabrics, use a stretch needle. The stretch needle prevents skipped stitches.
- Always purchase good quality thread. It should be strong, smooth and consistent in thickness. Use the same thread for needle and bobbin.

**Getting Ready to Sew**

### Needle and Thread Selection

In general, fine thread and needles are used for sewing lightweight fabrics and heavier threads and larger needles are used for sewing heavy-weight fabrics. There are many specialty needles available from your sewing machine dealer.

A denim needle with a sharp tip is used to effectively pierce dense fabrics such as denim and canvas. For topsitching, a special topstitching needle with a larger eye accommodates heavier weight thread. Leather needles punch small holes in leather and suede allowing

WEIGHT	FABRIC	TYPE OF NEEDLE	NEEDLE SIZE
Very light	Chiffon, Georgette, Fine Lace,	Universal Ball Point	9 (65)
Light	Batiste, Volie, Lawn, Pure Silk, Crepe de Chine,	Stretch Needle	11 (75) 11 (75)
Medium	Flannel, Velvet, Muslin, Velveteen, Poplin, Corduroy, Broadcloth, Linen, Chinette, Gabardine, Felt, Terry, Burrap, Quilted Fabrics	Universal Ball Point	14 (90) 14 (90)
Heavy	Double Knits (synthetic and natural), Stretch Velour, Stretch Terry, Sweater Knits	Ball Point	14 (90)
Very heavy	Denim, Salicloth, Ticking	Denim Needle	16 (100)
Heavy	Double Faced Wool, Heavy Coating, Fake Fur, Drapery Fabrics	Universal	16 (100)
	Leather, Suede	Wedge Point Leather	16 (100)
	Canvas, Duck, Upholstery Fabrics	Universal	18 (110)
	Topstitching for Special Finish	Needle	11 (75) 14 (90)

(For U.S. market only).  
 Machine Model 9008 (CE20)  
 Foot Controller Model 21371 use with Elina Sewing  
 outlet. Do not modify the plug in any way.  
 not fit, contact a qualified electrician to install the proper  
 To reduce the risk of electric shock, this plug is intended  
 to fit in a polarized outlet only one way. If the plug does  
 than the other).  
 For appliances with a polarized plug (one blade wider

### Operating Instructions:

3. Do not place anything on the foot control.
- When cleaning the machine.
- When attaching or removing parts.
- When leaving the machine unattended,

the power supply:

2. Always turn off the power switch and unplug from flywheel or needle.
- moving parts such as the thread take-up lever, your eye on the sewing area and do not touch any moving parts such as the thread take-up lever,
1. While the machine is in operation, always keep

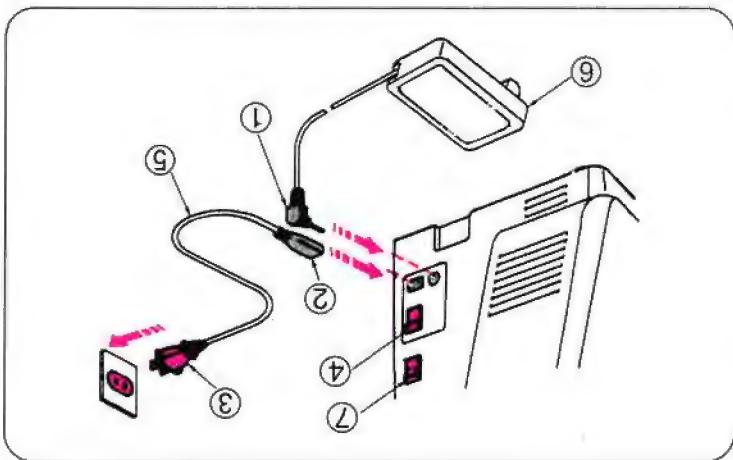
### For Your Safety

**NOTE:** • The start/stop key cannot be used when sewing. (The light on the key will be out), the foot control is plugged in for ordinary sewing. (The light on the key will be out), the foot control cannot be used for sewing automatic embroidery.

- ① Foot control plug
- ② Machine plug
- ③ Power supply cord
- ④ Power switch
- ⑤ Power supply plug
- ⑥ Foot control
- ⑦ Light switch

- Turn on the power switch and light switch.
- To sew using start/stop key, turn off the power switch. Insert the foot control plug and machine plug in the machine and the power supply plug in the wall outlet.
- To sew using foot control, turn off the power switch. Insert the foot control plug and machine plug in the machine and the power supply plug in the wall outlet.
- Before connecting the power cord, make sure the voltage and frequency shown on the machine are identical to your electrical power.

### Connecting Machine to Power Supply

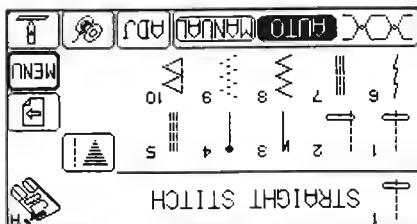


- Do not touch the surface of the computer display screen or program panel keys with hard or sharp objects such as pencils or screwdrivers. It is not necessary to press hard that is needed.
- Use a dry, soft cloth to wipe off the screen.

## CAUTION

- After turning off the machine, wait 5 seconds before turning it on.
- Follow the message that appears on the computer display screen. The machine will stop automatically if it is running overloaded for a long time. Should this occur, protective circuit to prevent overheating. The machine will automatically prevent overheating. The display will automatically select the needle position.

**NOTE:** The Elna CE 20 is equipped with a key and set itself to sew a straight stitch in center position.



The machine will automatically select the needle position.

**①** Straight stitch, buttonhole and utility mode. See page 20.

**②** Decorative mode. See page 54.

**③** Built-in letters and numbers mode. See page 65.

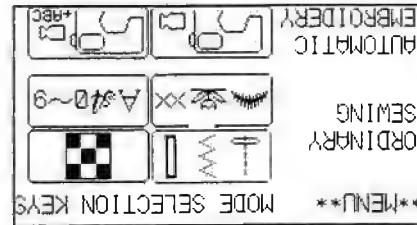
**④** Patchwork/quilting mode. See page 70.

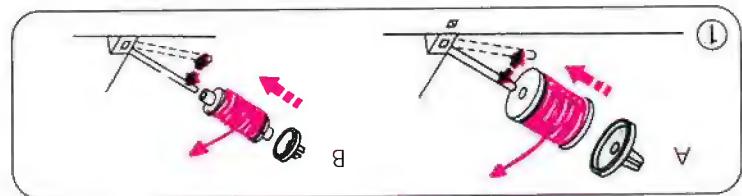
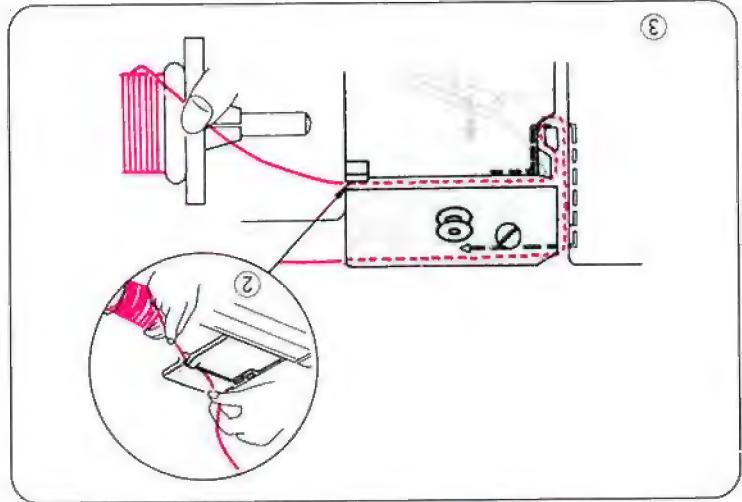
**⑤** Normal embroidery mode. See page 74.

**⑥** Edit design mode. See page 88.

When the machine is turned on, the menu screen containing the mode selection keys will appear.

## Computer Display Screen

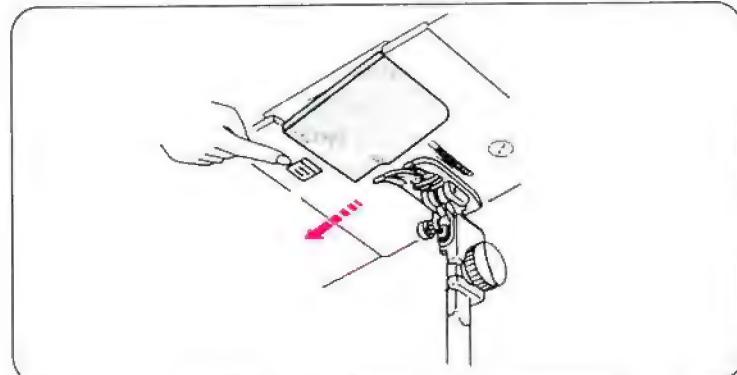
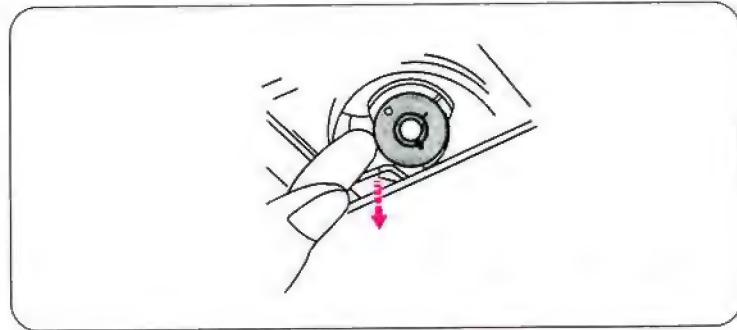
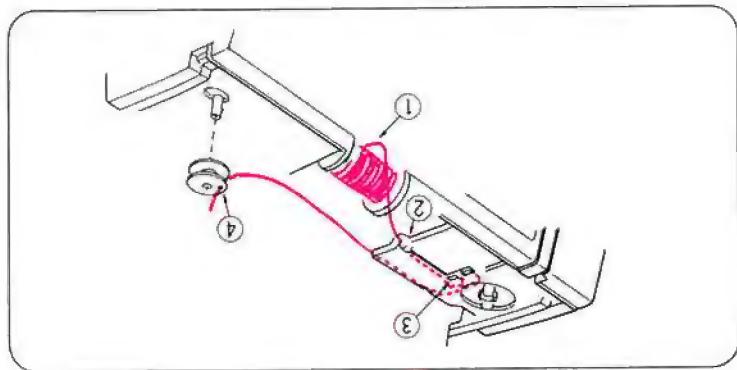




**NOTE:** Spool holder needs to be changed according to the type of thread spool.

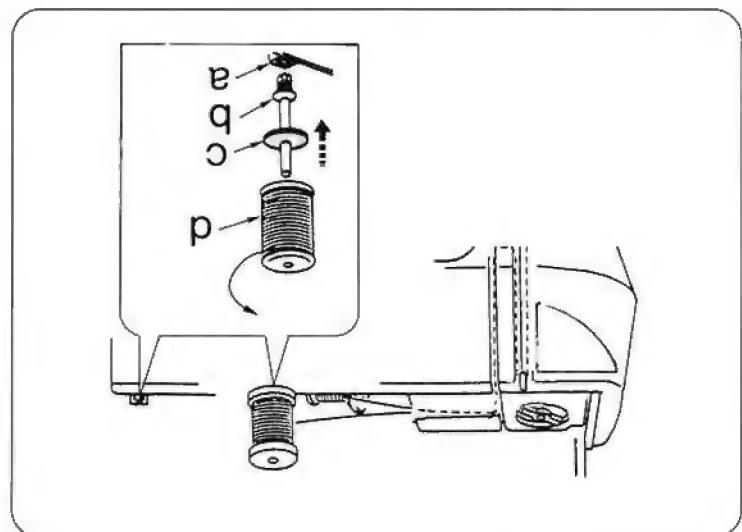
- ① Lift up the spool pin. Place the spool of thread on the spool pin with the thread coming off the spool firmly against the spool of thread.
- ② Hold the upper thread with both hands and press it downwards into the slot.
- ③ Guide the thread around the thread guide following diagram.
- ④ Pass the thread through the hole in the bobbin from the inside to the outside.

A. Large spool  
B. Small spool



Remove bobbin by sliding the bobbin cover plate release button to the right and lifting away the bobbin cover plate.

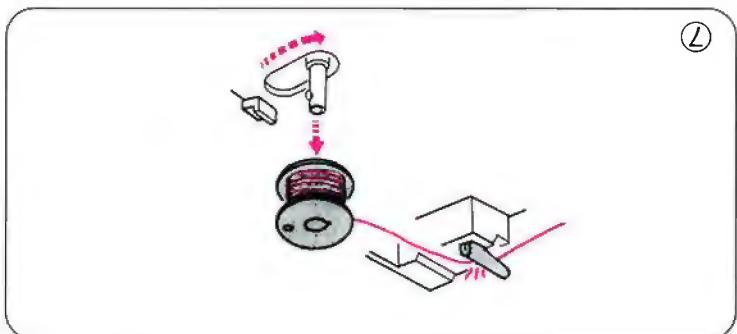
### Winding the Bobbin



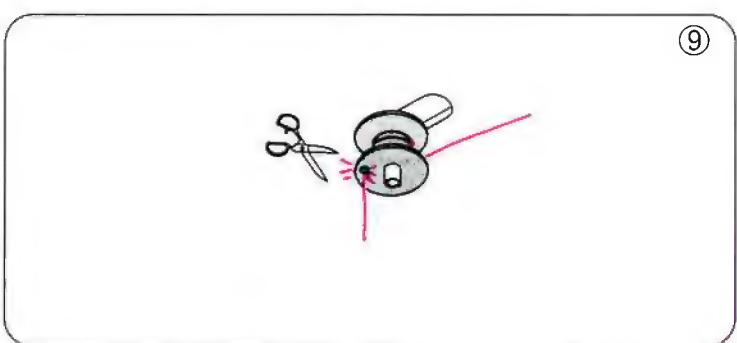
**Procedure** – Insert the additional spool pin in one of the two holes. Place the feet and spool on the pin with the thread coming off the spool as shown.

The additional spool pin may be used to wind an extra bobbin without unthreading the machine.

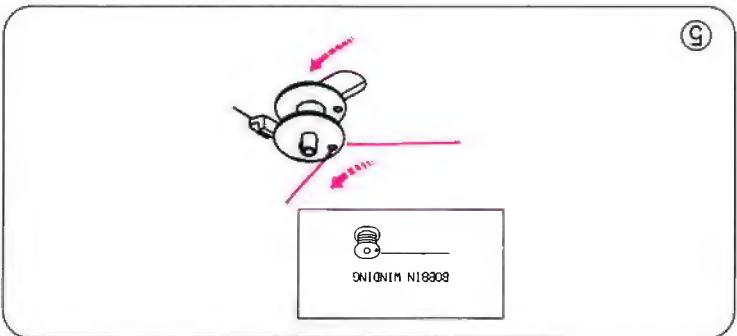
- ⑦ Return the bobbin winder to its original position by moving the spindle to the left; cut the thread as shown.
- The machine will not sew until the spindle is in the left position.
- The machine stops automatically after 2 minutes.



- ⑧ Holding the free end of the thread, press the foot control. Stop the machine when it has made a few turns and cut the thread close to the hole in the bobbin. Press the foot control again. When the bobbin is fully wound, it will stop automatically.



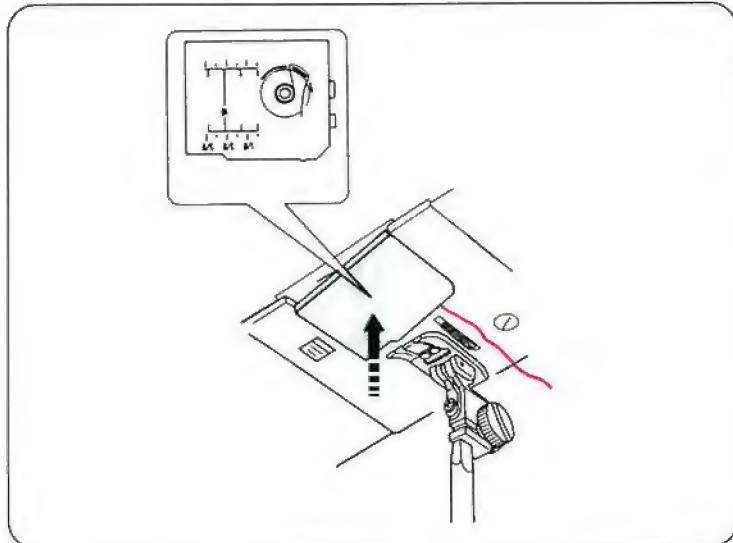
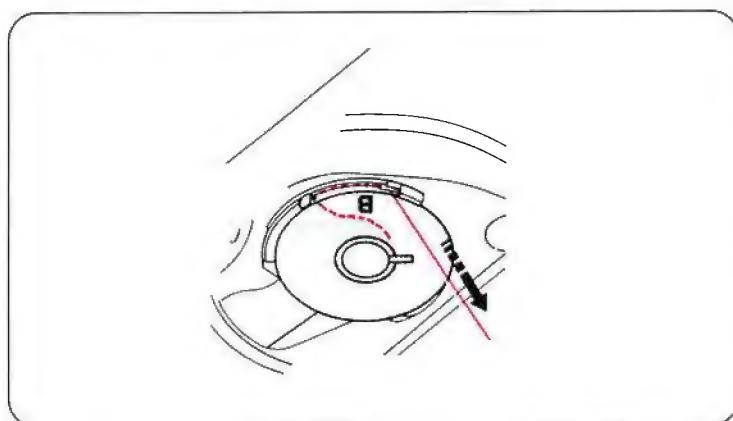
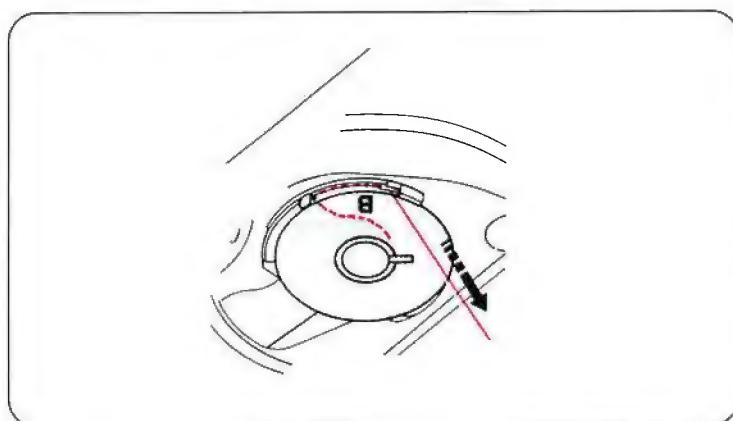
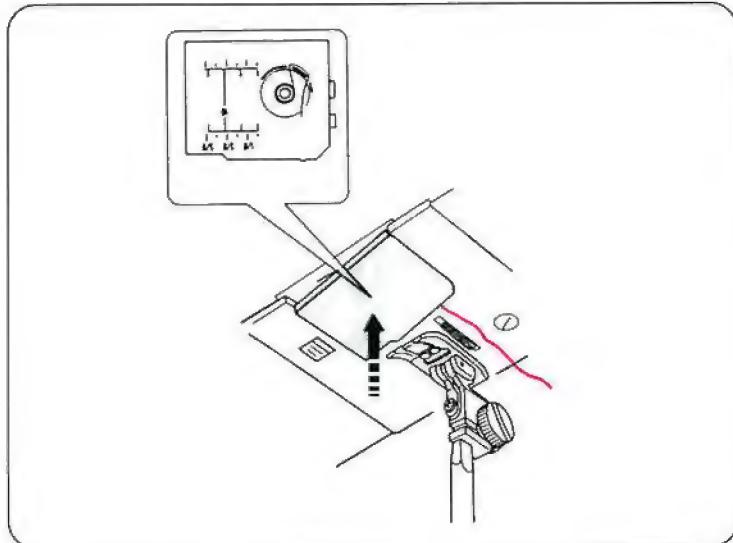
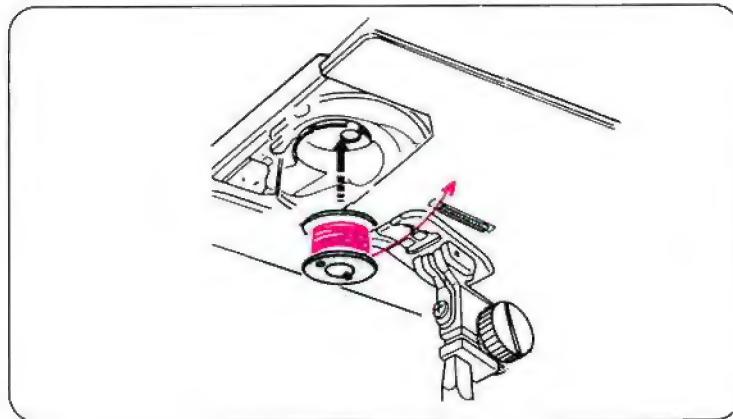
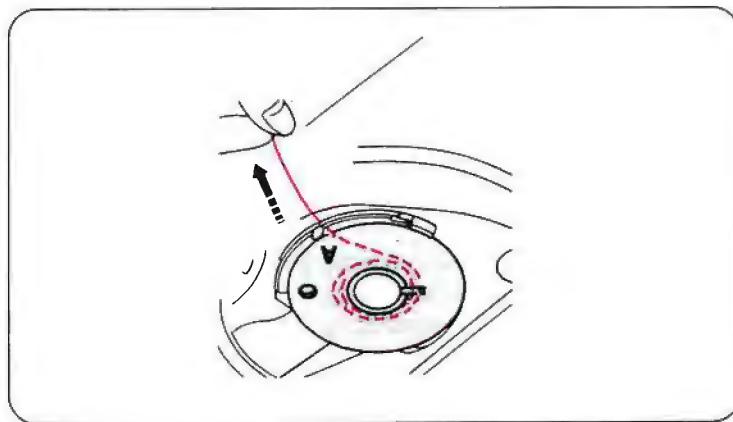
- ⑨ Place the bobbin on the bobbin winder spindle and push it to the right. (The computer display screen will show "Bobbin Winding" message.)

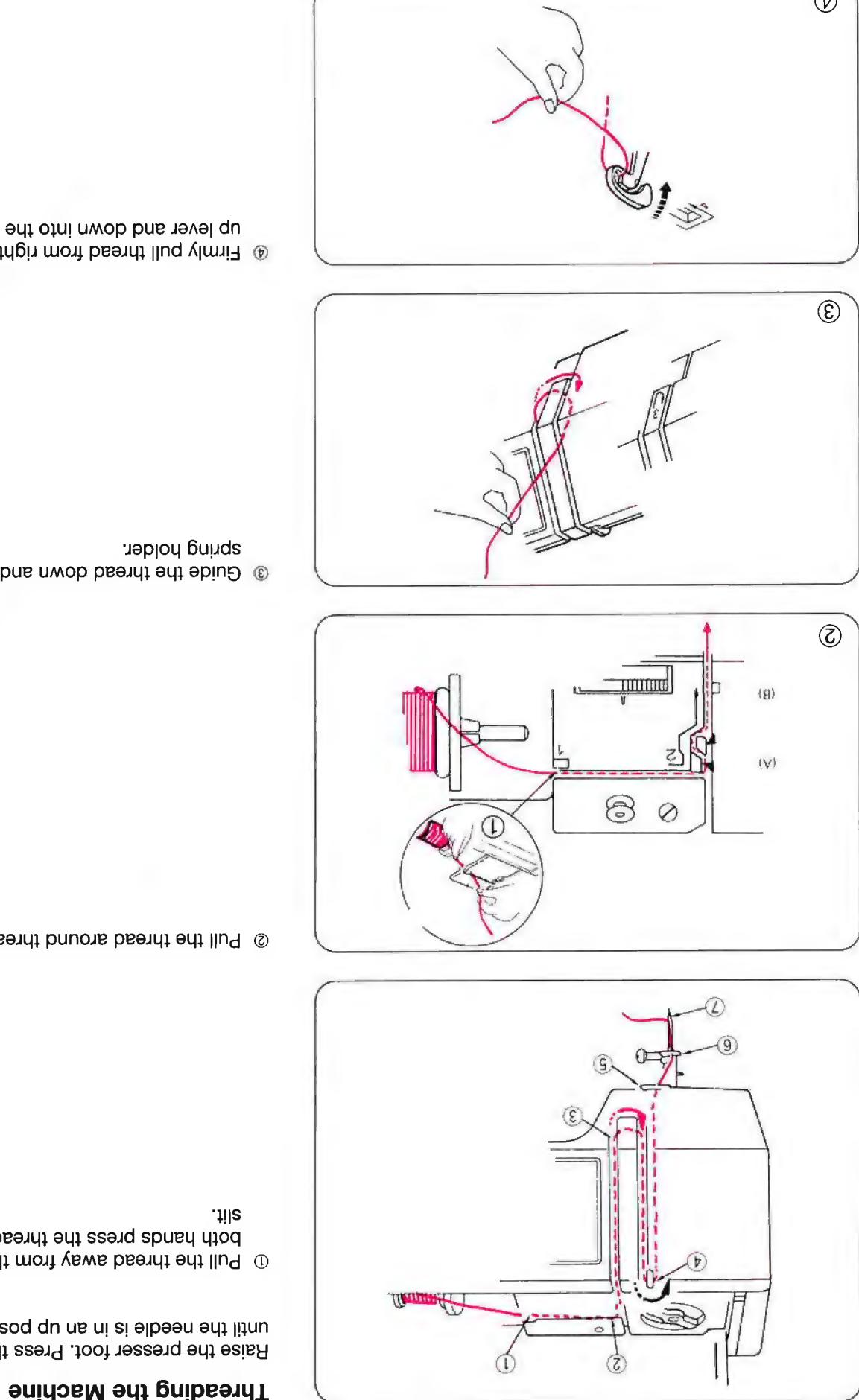


## Inserting the Bobbin

Place the bobbin in the bobbin case with the thread running counter-clockwise.

Guide the thread into notch A on the front side of the bobbin case.





### Automatic Needle Threader

- The needle threader can be used with #11 to #16 size needles. Thread weight may vary from 30 to 100.

Manually bring the thread through the needle eye by pulling the thread loop to the back.

Release the lever and let the needle threader return to its original position.

Turn the lever in the direction of the arrow in the illustration, drawing the thread loop through the needle.

Bring the thread around Guide B and under Hook A. Illustration, then insert Hook A into the needle eye. Turn the lever in the direction of the arrow in the illustration, then insert Hook A into the needle eye.

Raise the needle to its highest position. Lower the needle threader lever as far as it will go.

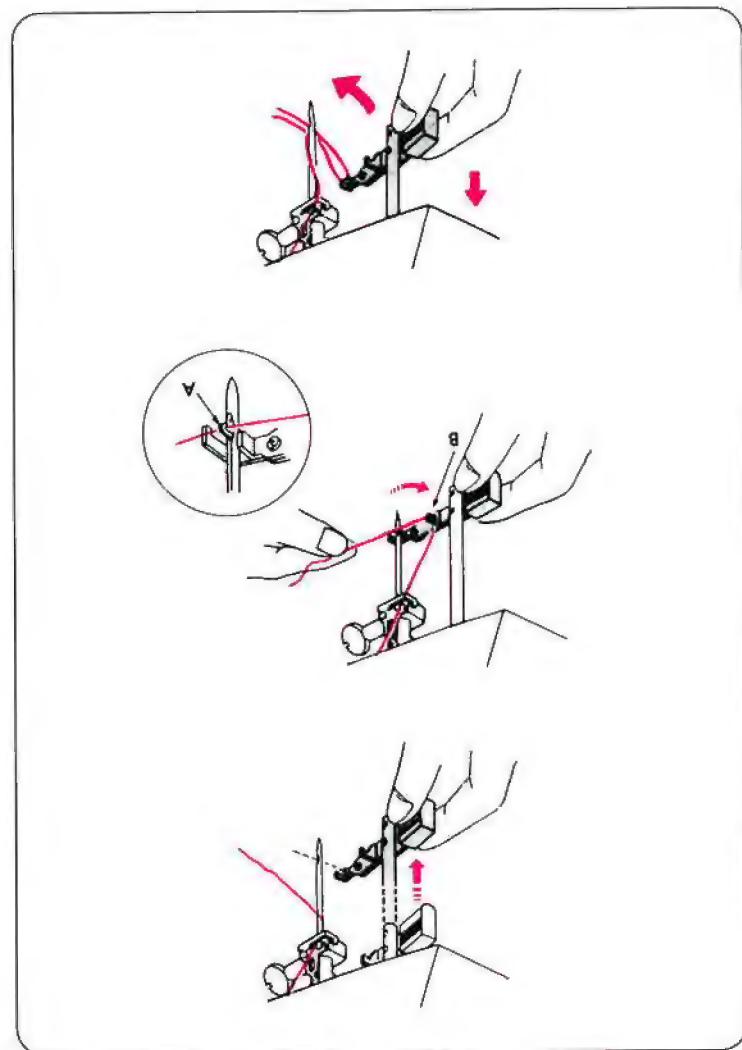
Automatic needle threader stops after about 10 cycles.

- This machine is equipped with a thread breakage sensor. If the machine is run without thread, it automatically stops after about 10 cycles.

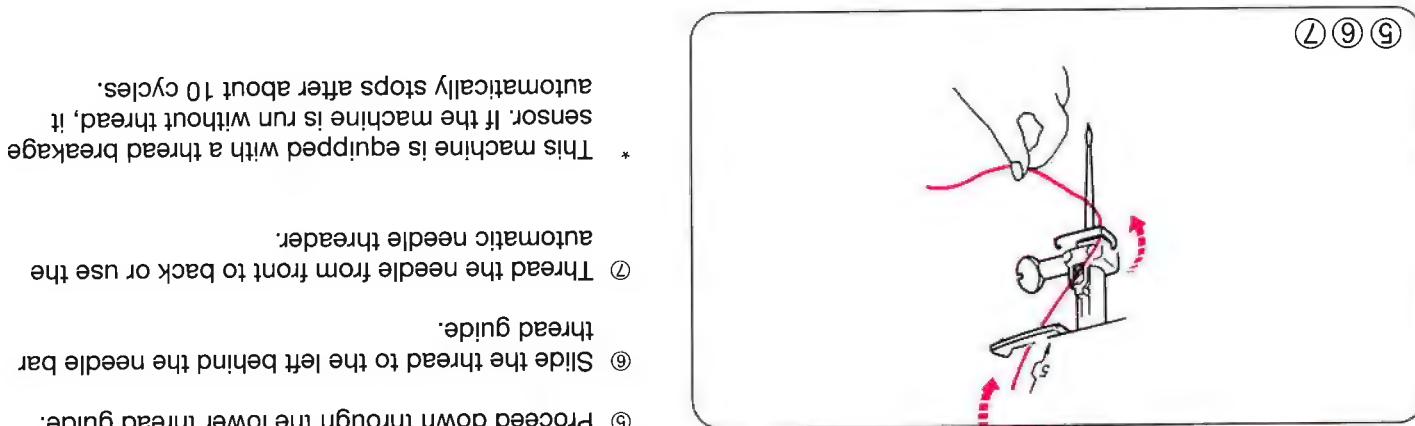
⑦ Thread the needle from front to back or use the automatic needle threader.

⑧ Slide the thread to the left behind the needle bar thread guide.

⑨ Proceed down through the lower thread guide.



⑤ ⑥ ⑦



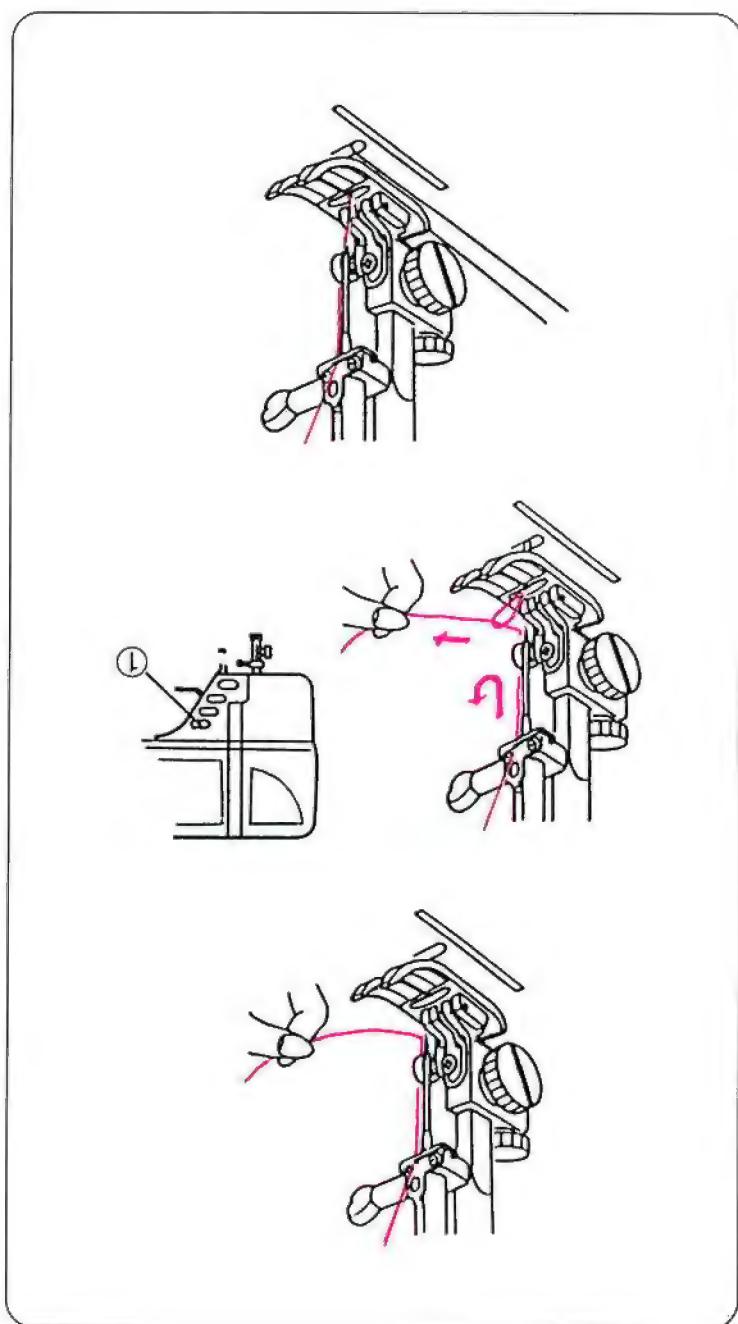
### Drawing Up the Bobbin Thread

Raise the presser foot. Hold the needle thread lightly with your left hand.

Press the up/down needle key twice to pick up the bobbin thread. Draw up the needle thread together with a loop of bobbin thread.

① Up/down needle key

Slide 10 cm (4") of both threads to the back under the presser foot.



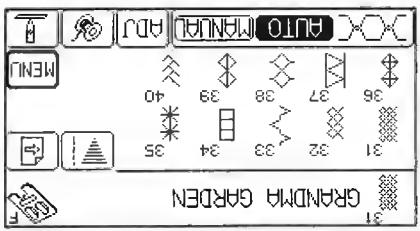
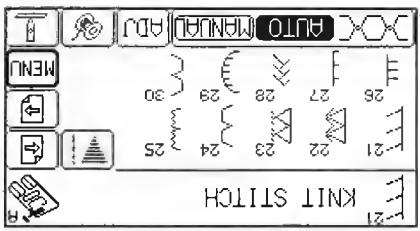
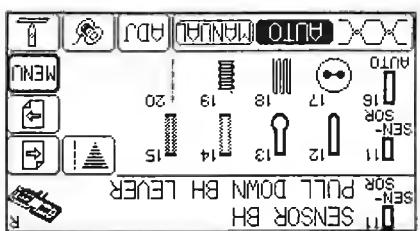
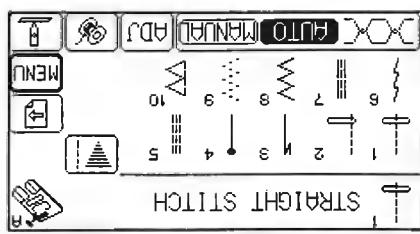
**Stitch Width and Length Key**



Width and length are automatically set after selecting the stitch. Press the  key to adjust stitch width or length.

**Function Keys and Stitch Selections**

**Straight Stitch, Buttonhole and Utility Mode**



**Needle Stop Position Key**



The needle stop position key only activates the up or down position key after sewing. The needle will stop down and will continue to stop up or down position key after sewing.

**Needle Stop Key**



Needle will stop down and will continue to stop down.

**Needle Stop Up Key**



Needle will stop up and will continue to stop up.

**Previous Page Key**



The screens may be alternated to show the various options. Press the  key to move from screen D to C to B to A.

**Next Page Key**



The screens may be alternated to show the various options. Press the  key to move from screen A to B to C to D.

**Bobbin Thread Sensor Key**



Press the  key. A message will appear indicating whether or not there is sufficient bobbin thread.

BOBBIN THREAD ALMOST OUT

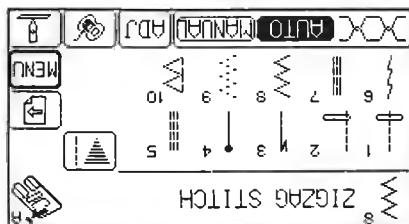
SUFFICIENT BOBBIN THREAD

A message will appear indicating whether or not there is sufficient bobbin thread.

BOBBIN THREAD ALMOST OUT

SUFFICIENT BOBBIN THREAD

## SECTION III



The upper right corner suggests the appropriate foot.

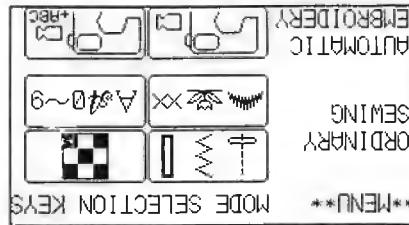
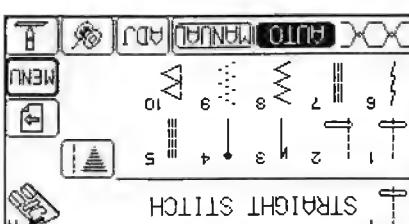
Stitch is selected and indicated in the upper left corner of the screen.

Press the key.

The machine sets itself automatically to sew a straight stitch in center needle position.

Press the key.

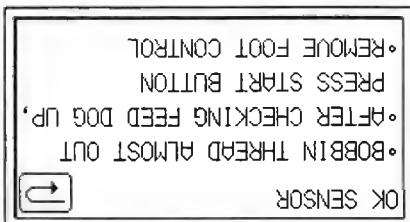
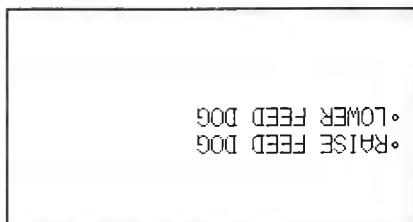
### How to Select a Stitch



If the OK sensor appears on the screen after sewing to lower the feed dog.) (if the darinng stitch is selected, you will be reminded

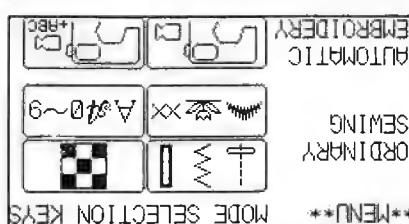
key and continue sewing.  
starts, check the items listed, then press the key.

### OK Sensor



Press the key to return the computer display screen to the menu screen.

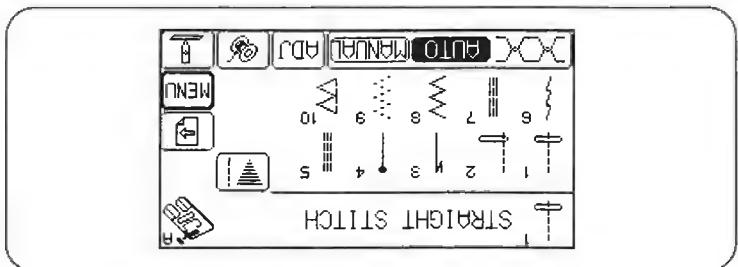
Press the key to return the computer



The machine automatically sets the tension after selecting a stitch. Press the key to change the tension.



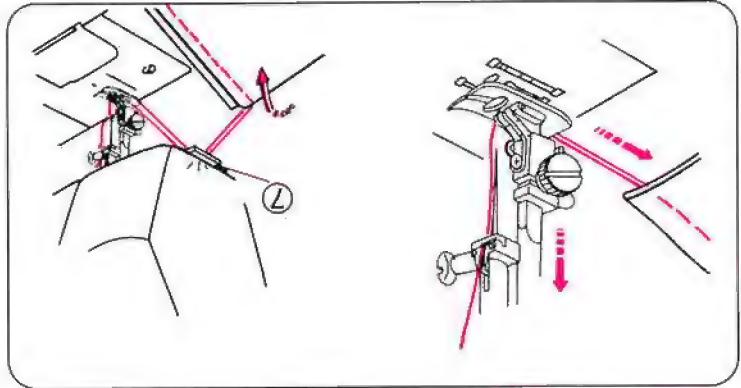
- Cm/inch indication - See page 27.
- Free Arm - See page 26.
- Feed Dog Position - Up or down - See page 26.
- Cloth Guide Position - See page 25.
- Automatic Thread Tension - See page 25.
- Press the key to change:



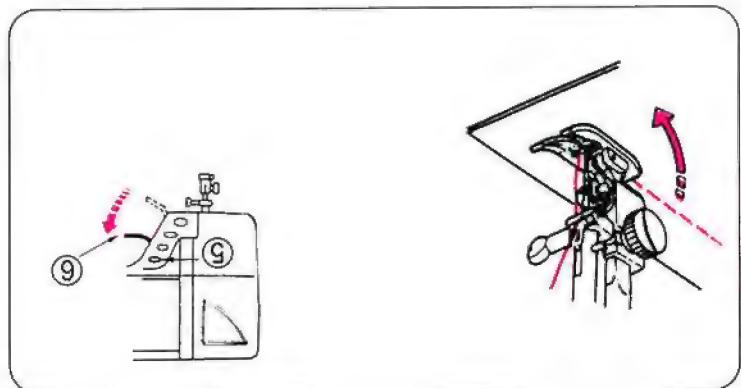
## ⑦ Thread cutter

(The threads are cut the proper length to start the next seam.)

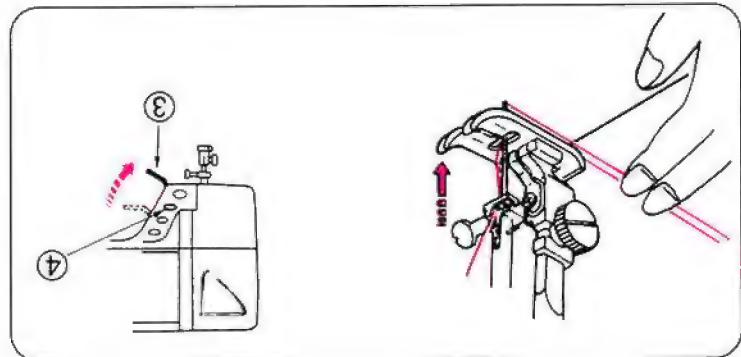
Raise the presser foot. Remove the fabric; pull the cutter. (The threads are cut the proper length to start threads to the back and cut threads using the thread cutter.)

**Finishing Off a Seam**⑥ Presser foot lever  
⑤ Up/down needle key

Stop the machine and bring the needle down into the fabric by pressing the up/down needle key. Raise the presser foot. Pivot the fabric around the needle to change sewing direction. Lower the presser foot to

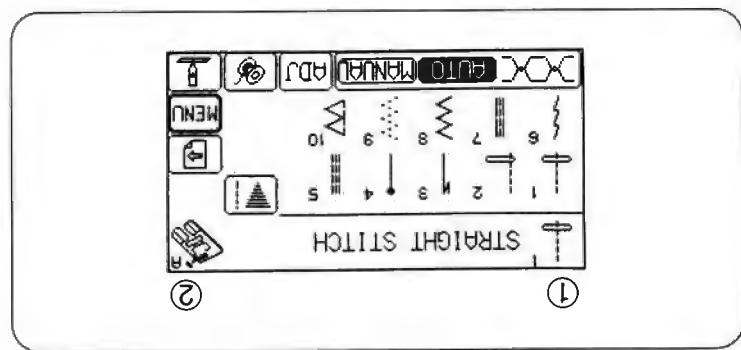
**Changing Sewing Direction**④ Reverse key  
③ Presser foot lever

To fasten the threads at the beginning of a seam, press and hold the reverse key while sewing.

**Starting to Sew**① STRAIGHT STITCH  
② A: Metal foot

The basic straight stitch is used for sewing seams, zipper insertion, pin tucks and rolled hems.

Press the key. The machine will sew the straight stitch in the center needle position. (Press the key and machine will use left needle position.)

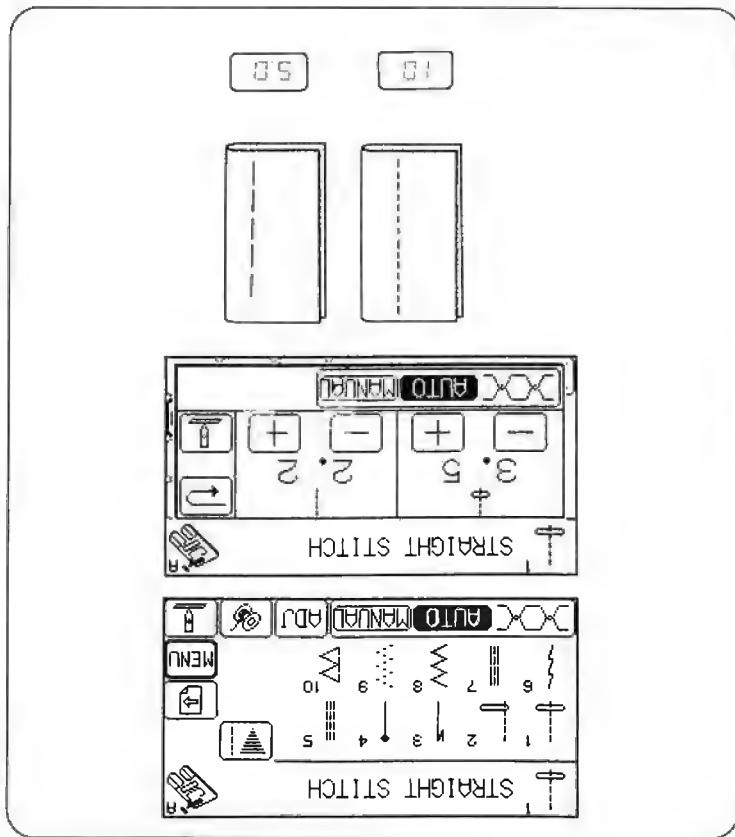
**Straight Stitch**

### Adjusting Stitch Length

Press the  key. Use the right side keys; press **—** key to decrease and **+** key to increase.

\* Press and hold down the [—] key or [+] key to switch channels.

\* The reverse stitch length will not sew any longer than 3 mm (1/8").

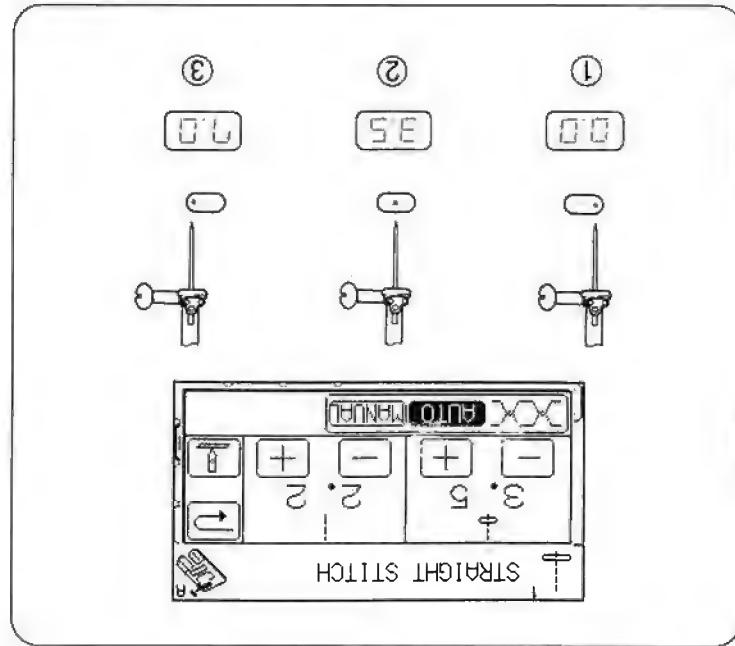


### Variable Needle Positions

The straight stiches and quilting stiches listed below allow you to move the needle to any position. There is a total of 15 needle positions. Press the  key. Use the left side keys; press  key to move left and  key to move right.

① Left position      ② Centre position      ③ Right position

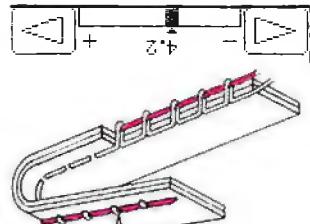
After adjusting stitch length and needle position, press the  key to return to screen A.



- When adjusting needle thread tension, the higher the number, the tighter the needle thread.
- To return the thread tension setting to auto, select "▲" mark indicates auto position.

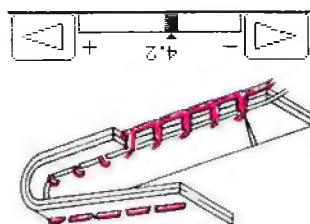
Press **MANUAL** key. Press  to increase tension.

- The needle thread shows through on the underside of the fabric and feels bumpy. The underside of the fabric and feels bumpy.
- **Tension is too loose**



Press **MANUAL** key. Press  to decrease tension.

- The bobbin thread shows through on the top side of the fabric and feels bumpy.
- **Tension is too tight**



When sewing a zigzag stitch, the needle thread should appear slightly on the fabric underside.

Look at the top and bottom of the stitch. Notice that there are no gaps; each stitch is smooth and even.

- When sewing a zigzag stitch, the needle thread should appear slightly on the fabric underside.

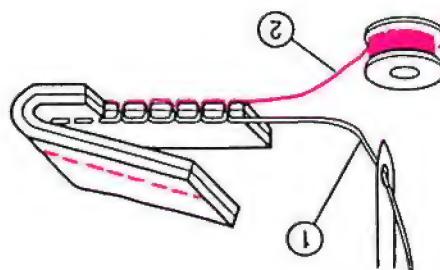
① Needle thread    ② Bobbin thread

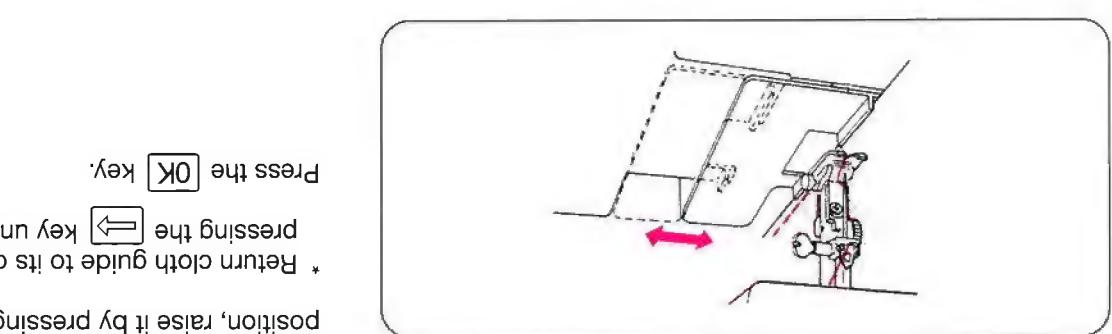
The ideal straight stitch will have threads locked between the two layers of fabric, as shown left (magnified to show detail).

- Special sewing techniques
- Numerous fabric layers
- Stiff and thick fabric

The Elna CE 20 is programmed to automatically set the tension according to the stitch. The "Auto" setting will occasionally need to be set manually for:

## Thread Tension



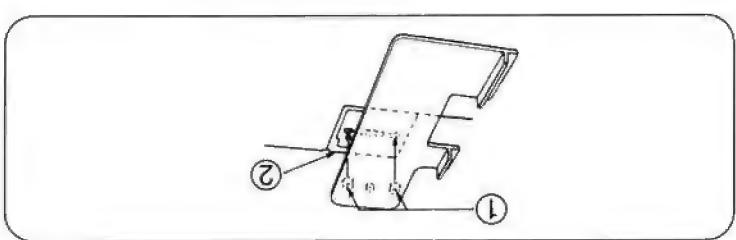
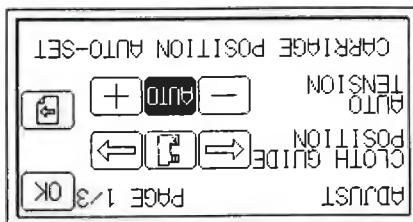


- \* Return cloth guide to its original position by pressing the key until the is indicated.
- When operating the or keys, the position, raise it by pressing the up/down needle should be raised. If the needle is in the down position, raise it by pressing the up/down needle key.

- Press the picture of the cloth guide and it moves 15 mm or 5/8" depending on whether needle position to the cloth guide.
- Customize the cloth guide distance by pressing the or key.
- Press the key.

- Attach the cloth guide by inserting the pins in the carriage holes.
- ① Pins      ② Carriage

### Cloth Guide



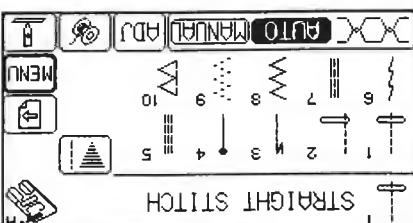
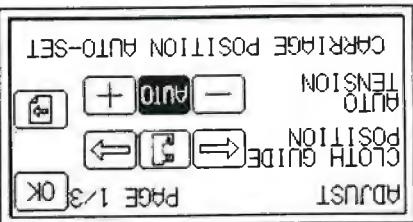
- "+" indicates tighter "Auto" setting.
- "-" indicates looser "Auto" setting.

- \* New settings stay memorized even when the machine is turned off.

- Press the key.
- Press the key to increase tension if tension is too loose.
- Press the key to decrease tension if tension is too tight.

- The "Auto" (default) thread tension may be altered and will affect all selected stitches.

### Auto Thread Tension

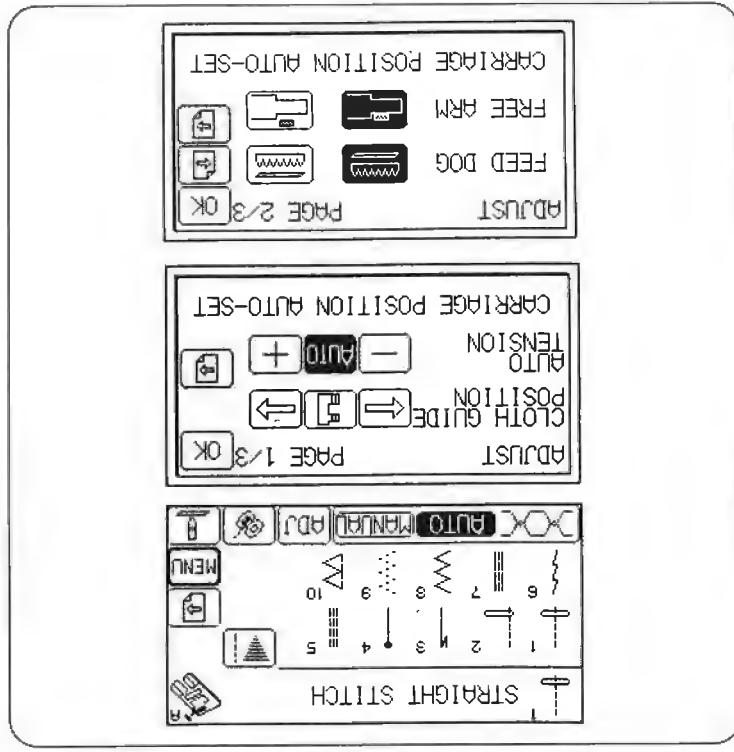


### Free Arm and Carriage Position

The carriage may be moved away from the machine to expose a longer free arm.  
Raise the needle to the up position. Clear the table surface of anything that might obstruct the carriage movement. (If the machine is in a cabinet, check that the machine is even or above the cabinet surface.)

See page 9 to manually position the feed dog.

- Press the **ADJ** key.
- Press the **FEED DOG** key.
- Press the **OK** key.
- Raise the needle to the up position.



### Raise or Lower Feed Dog

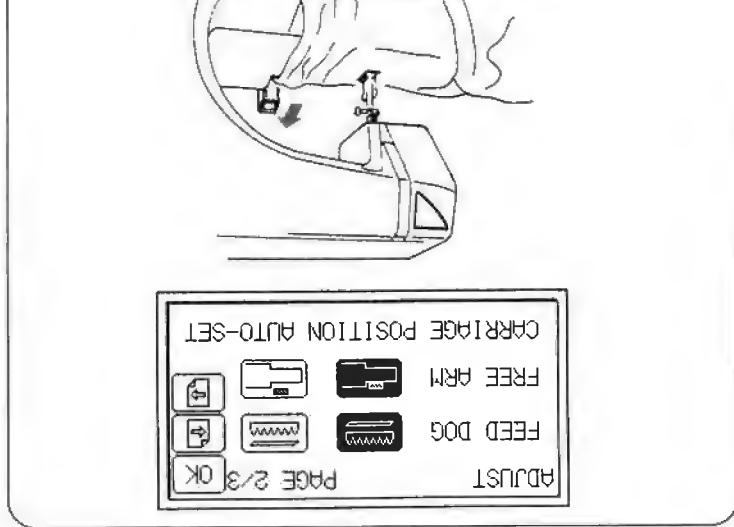
Raise the needle to the up position.

- Press the **ADJ** key.
- Press the **FEED DOG** key.
- Press the **OK** key.

The carriage may be moved away from the machine to expose a longer free arm.

Raise the needle to the up position. Clear the table surface of anything that might obstruct the carriage movement. (If the machine is in a cabinet, check that the machine is even or above the cabinet surface.)

- Press the **ADJ** key.
- Press the **FEED DOG** key.
- Press the **OK** key to move carriage out.

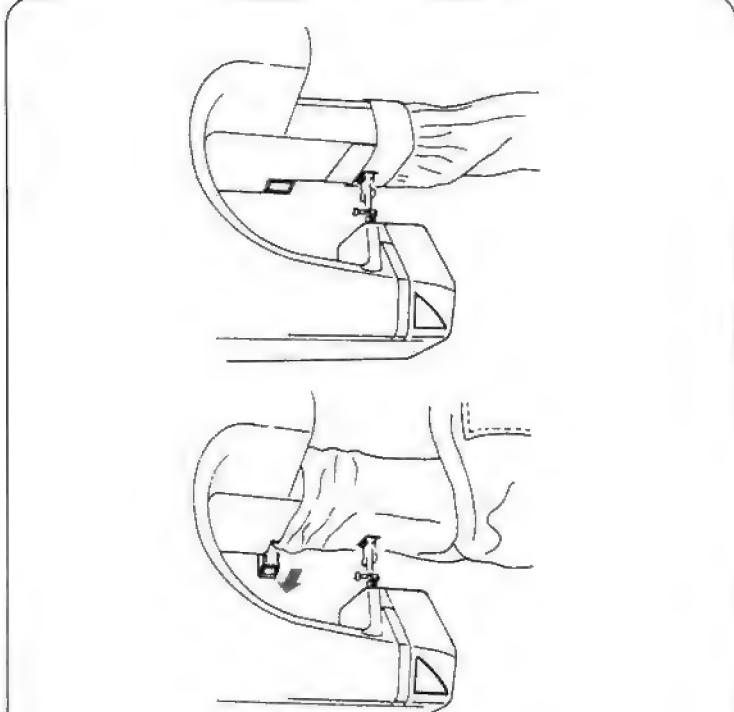


### Press the **OK** Key.

Press the **OK** key to move carriage in.

**OR**

- Press the **ADJ** key.
- Press the **FEED DOG** key.
- Press the **OK** key to move carriage in.



## Gathering

Measurements appearing on the patchwork mode and cloth guide screen may be indicated in either centimetres or inches.

Press the **[ADJ]** key.

Press the **[OK]** key twice.

Press the **[in.]** or **[cm]** key.

The machine will retain the measurement indication even after turning off the power.

**Example:** Press the **[ADJ]** key.

Press the **[OK]** key.

The measurement will appear in the cloth guide position display.

**Press the **[ADJ]** key.**

**①** Straight stitch  
**②** A: Metal foot

Press **MENU** key. Press **▶** key to decrease tension to 1.0 - 3.0.

Press **MENU** key. Press **▶** key to increase stitch length to 5.0. Press **[OK]** key and **[+]** key. Press right side **[+]** key and **[OK]** key. Press to medium weight fabric.

Sew two rows of parallel stitches. Sew first row next to raw edge using foot A as guide. Sew second row next to first row using foot A as guide. Leave long thread tails at beginning and end of each row.

Pull on the bobbin threads simultaneously from each end of the fabric until the desired amount is gathered.

Knot the threads at each end and distribute the gathers evenly.

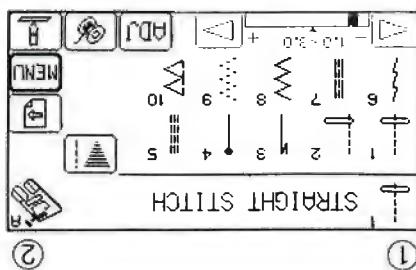
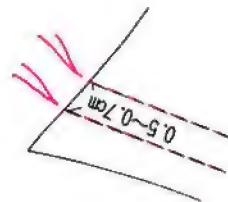
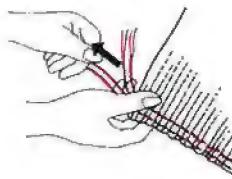
Press **[+]** key to reset machine for regular straight stitch settings.

Sew between two rows of stitching to secure gathering.

**OR**

Lay gathered fabric over flat fabric and sew the two fabrics together directly on the second row of gathering.

Gathering stiches.



## Centimetre/inch Indication

Measurements appearing on the patchwork mode and cloth guide screen may be indicated in either centimetres or inches.

Press the **[ADJ]** key.

Press the **[OK]** key twice.

Press the **[in.]** or **[cm]** key.

The machine will retain the measurement indication even after turning off the power.

**Press the **[ADJ]** key.**

**①** Cloth guide POSITION  
**②** AUTO TENSION

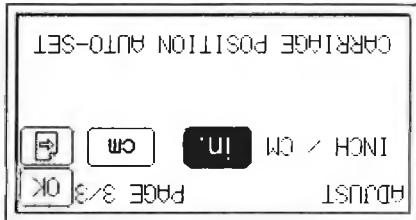
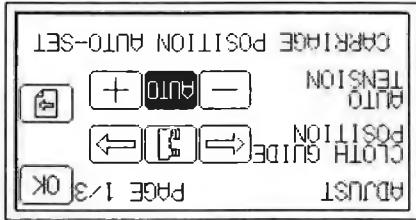
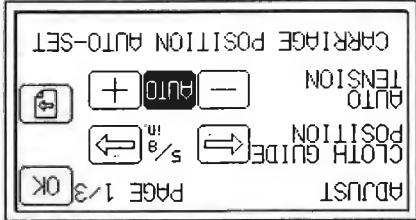
Press the **[OK]** key.

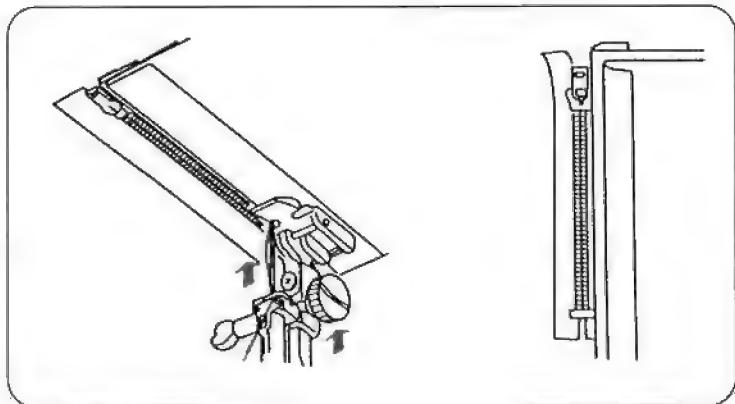
Press the **[in.]** or **[cm]** key.

The measurement will appear in the cloth guide position display.

**Press the **[ADJ]** key.**

**①** PAGE 1/3 OK  
**②** CARRIAGE POSITION AUTO-SET





**Zipper Insertion**

① Straight stitch  
② E: Zipper foot

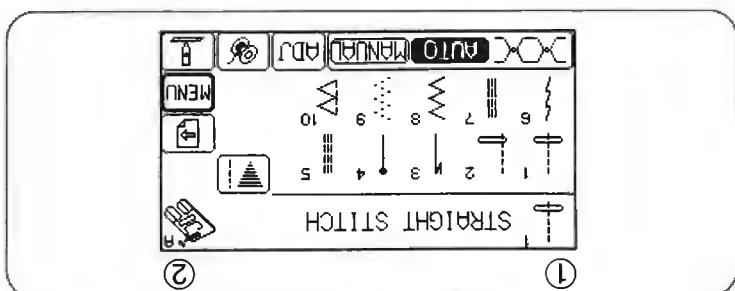
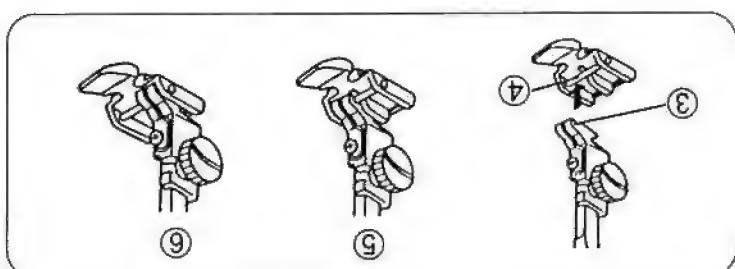
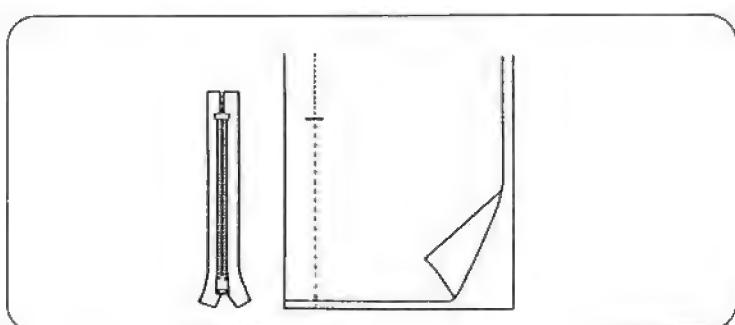
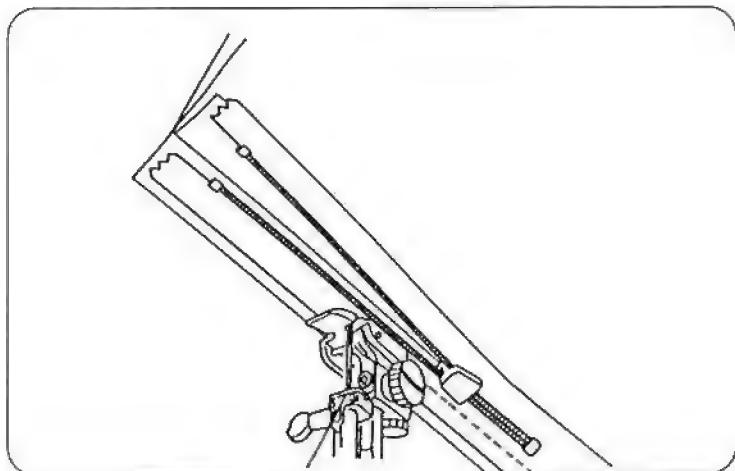
Attach the pin on the zipper foot to the groove on the shank.

- To sew the left slide of the zipper, attach the zipper foot on the right-hand side.
- To sew the right slide of the zipper, attach the zipper foot on the left-hand side.
- To sew the right side of the zipper, attach the zipper foot on the right-hand side.
- To sew the right side of the zipper, attach the zipper foot on the left-hand side.

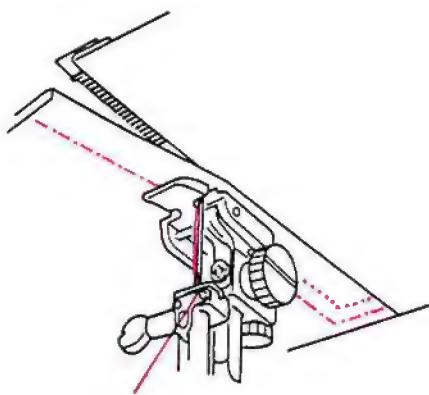
Add 1 cm (3/8") to the zipper size. Use this measurement and mark the opening for the zipper. Place right sides of fabric together and sew the seam located below zipper placement. (Make sure to reverse increase stitch length to 4.5 and baste the zipper opening closed. Press the seam and basting seam open.)

Open zipper and place it face down on the seam allowance. Teeth are on the seam line and zipper top is 1 cm (3/8") from fabric top edge. Attach foot with right side pin. Baste zipper in place, sewing from bottom to top.

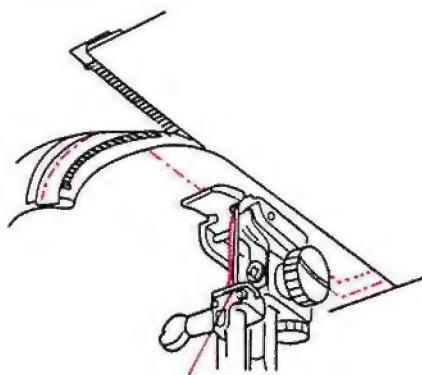
**Lapped Application**



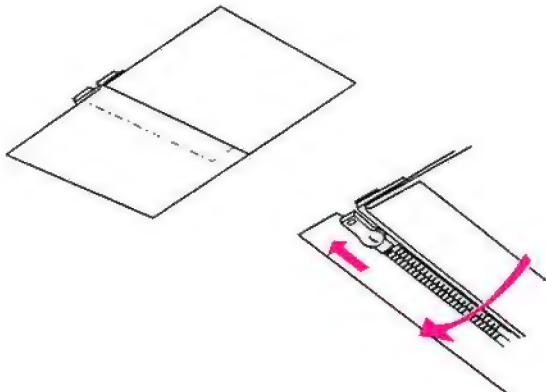
Slightly lower the needle into the fabric. Raise the foot, remove the basting stitches and open the zipper. Lower the foot and stitch the remainder of the seam, making sure the fold is even.



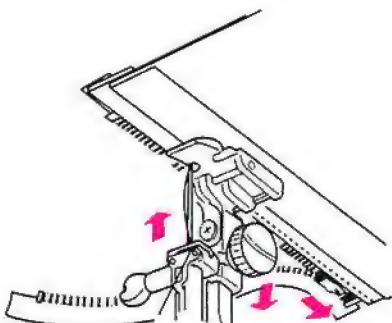
Move the zipper foot to the left side pin. Guide the edge of foot along the zipper teeth and stop about 5 cm (2") from the top of the zipper.



Close the zipper and spread the fabric flat with the right side facing up. Baste through the opened seam allowance and zipper tape.



Stop just before the zipper foot reaches the slider on the zipper tape. Lower the needle slightly into the fabric. Raise the zipper foot and open the zipper. Lower the foot and stitch the remainder of the seam.



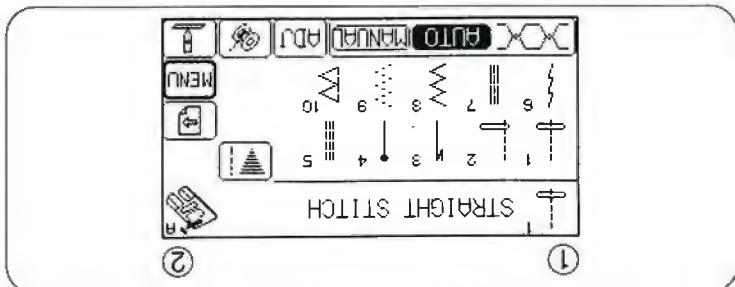
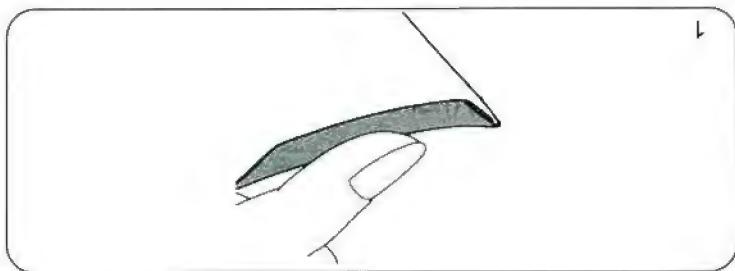
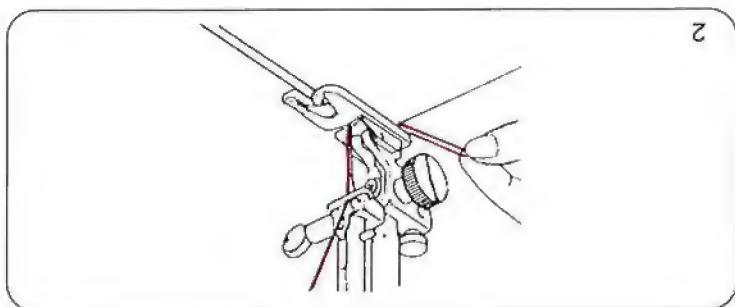
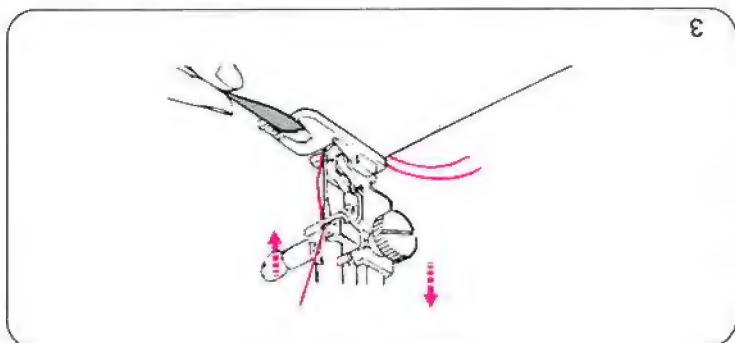
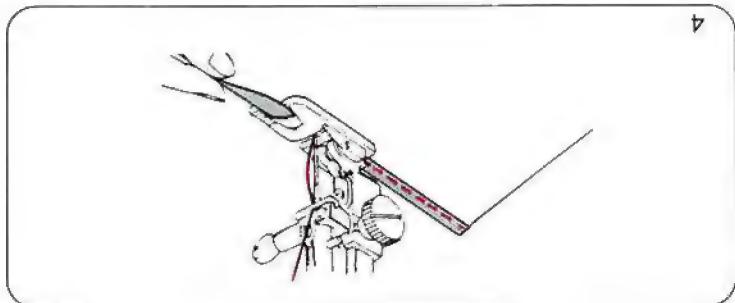
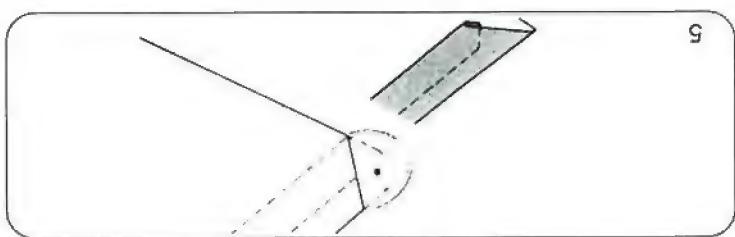
**Rolled Hem**

An easy, professional way to sew hems using the straight stitch. Recommended for fine, sheer fabrics used in bridal wear.

① ⚡ Straight stitch  
② D: Hemmer foot

1 Make a double 3 mm (1/8") fold approximately 8 cm (3") in length.

2 Lower the needle into the fabric at the point where sewing is to begin; lower the hemmer foot D. Sew 3 or 4 stitches while holding the needle and bobbin threads.



Pintucks are a beautiful accent that may be added to any project. Plan extra fabric to sew the pintucks. Create the pintucks before cutting out the final project dimensions.

25. Attach cloth guide and set cloth guide distance between 1 mm and 3 mm (1/16" and 1/8"). See page Using a washable marker, prepare the fabric by drawing parallel lines for pintuck placement.

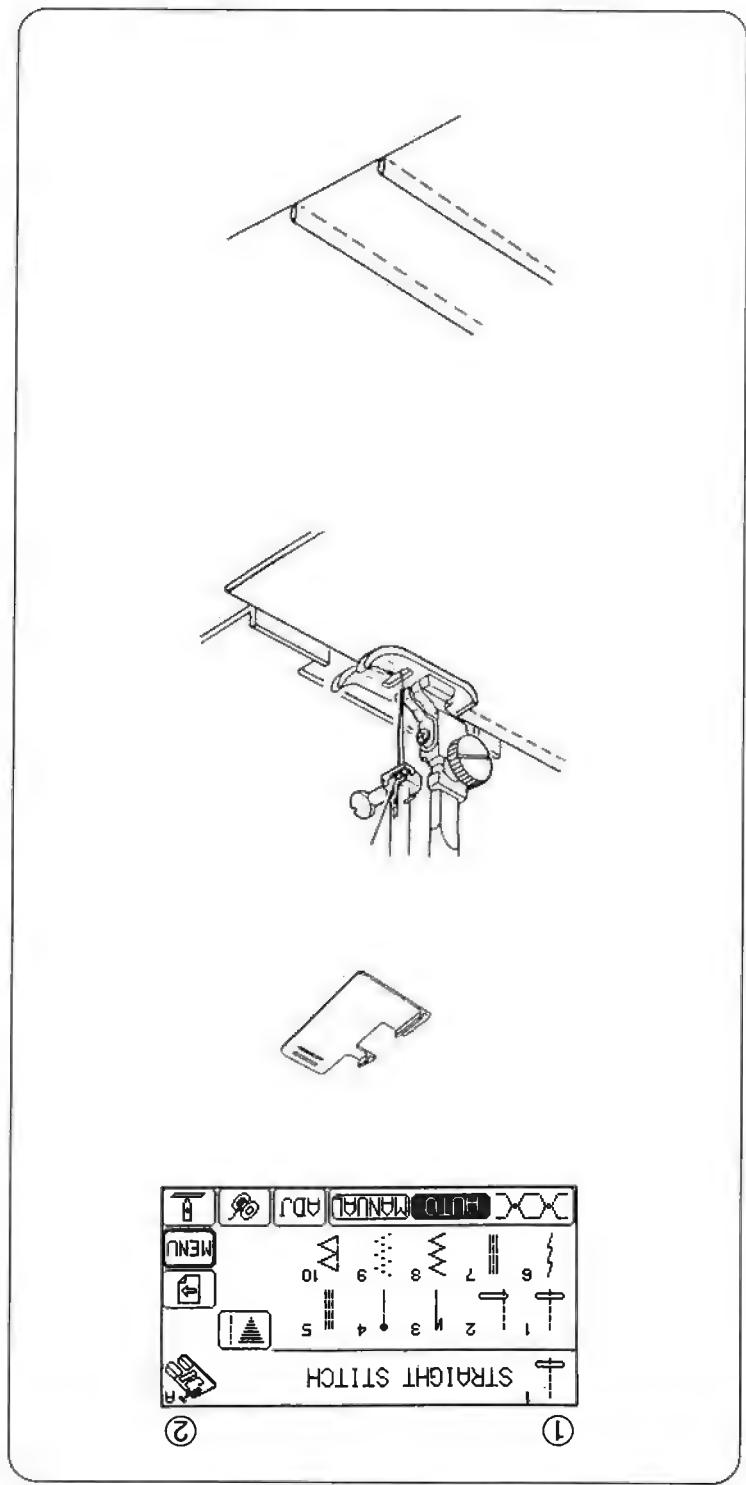
① Ⓛ Straight stitch  
② A: Metal foot

Press pintucks to one side.

Pintucks are a beautiful accent that may be added to any project. Plan extra fabric to sew the pintucks. Create the pintucks before cutting out the final project dimensions.

Fold fabric on first line with wrong sides together. Position folded edge next to fabric guide. Lower the presser foot. Sew, guiding the fabric along the cloth guide. Sew remaining pintucks in same method.

## Pintucks



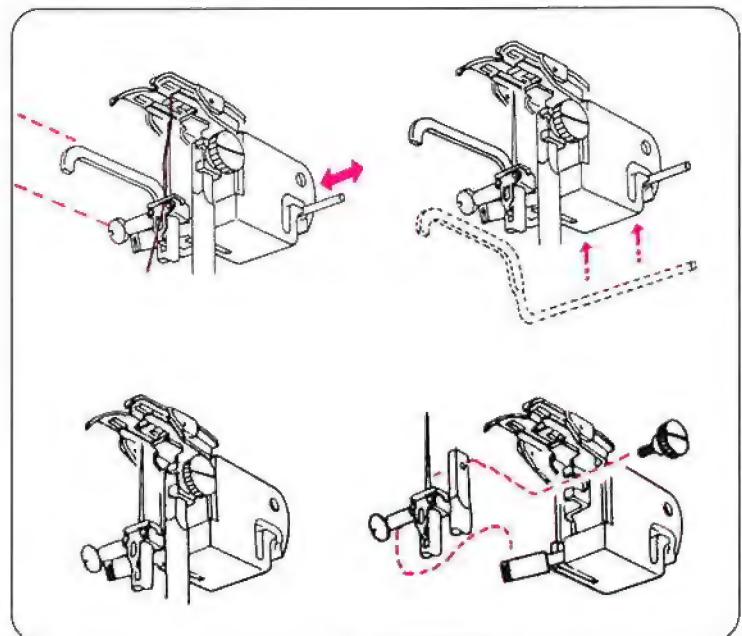
## Quilting

Quilting is produced by stitching in between two layers of fabric together with batting in between to add dimension. Traditionally used for crafts, garments and home decorating. The quilting bar is a guide for sewing parallel rows of stitching. Attach the quilting bar by loosening the quilting bar screw. Slide the quilting bar into the opening, set the width between stitching rows and tighten screw.

① A: Metal foot  
② Straight stitch  
③ Quilting bar screw

Use a washable marker to draw the first line for stitching. Sew over line. Sew all other rows guiding the quilt bar over the previous row of stitching.

The walking foot may be necessary to prevent quilt layers from shifting during the quilting process. The walking foot is also effective in preventing slipping or puckering because the fabric is between an upper and lower feed dog. Attach the walking foot by raising the needle clamp screw; secure it with the thumbscrew. Presser foot: Remove the shank. Place the walking presser foot on the presser bar with the lever over the needle clamp screw. Attach the walking foot to the quilting bar to set the width between rows.



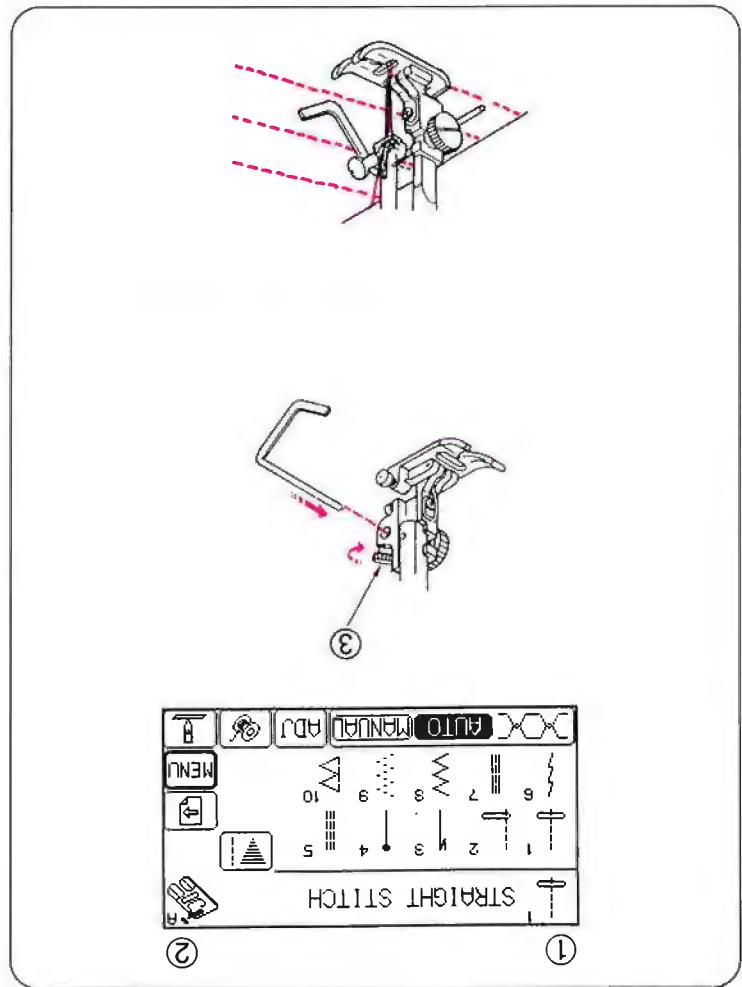
## Walking Foot

④ Quilting bar screw

Slide the quilting bar into the opening, set the width between stitching rows and tighten screw. Sew all other rows guiding the quilt bar over the previous row of stitching.

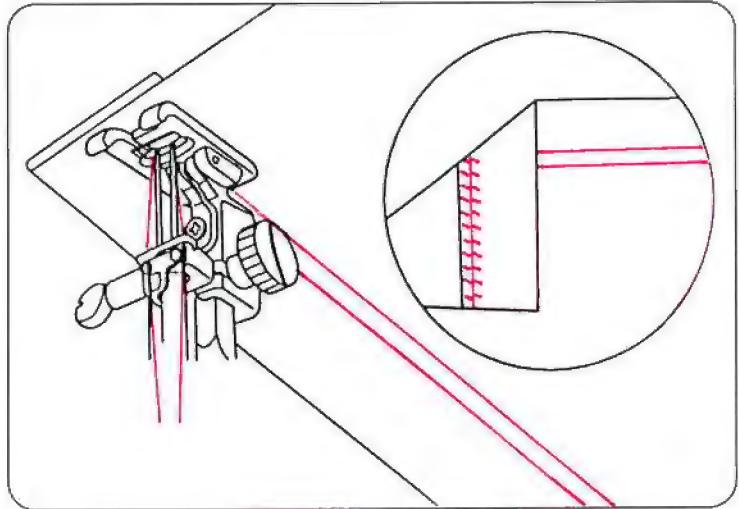
⑤ A: Metal foot  
⑥ Straight stitch  
⑦ Quilting bar screw

Traditional used for bedspreads, quilting is now used for crafts, garments and home decorating. The quilting bar is a guide for sewing parallel rows of stitching.



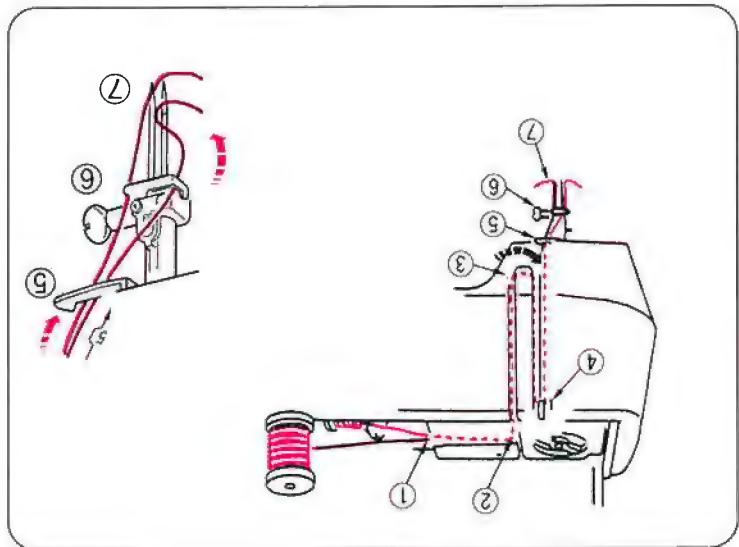
Remove twin needle. Set up machine for single needle sewing.

Fold the hem up desired amount and topstitch with zigzags, allowing the hem to stretch with the fabric. Fold the twin needle. Carefully trim away excess fabric using sharp scissors. This is an excellent hemming method for knit fabrics because the bobbin thread uses on the twin needle.



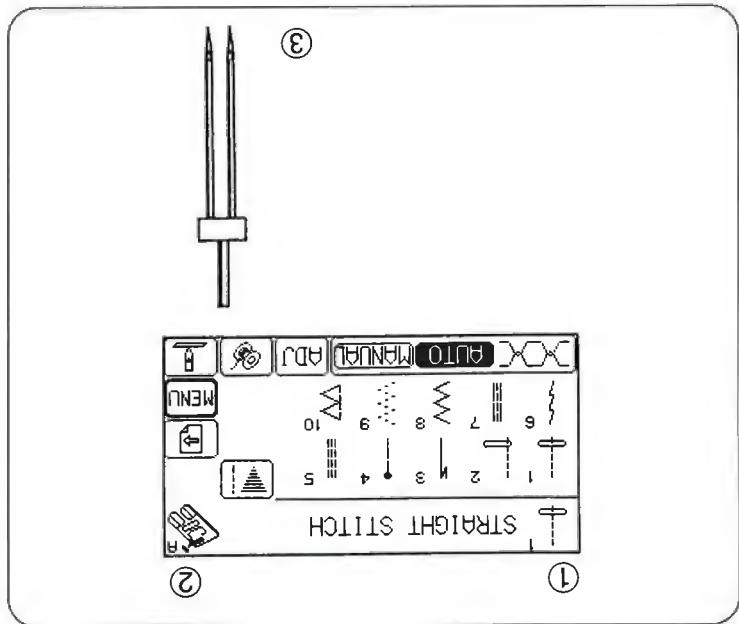
- The needle threader cannot be used with a twin needle.
- ⑦ Thread the needles from front to back.
- ⑥ Slide one of the threads through the needle bar one on the right.
- ⑤ Draw the threads down and slide them through the right side of the lower thread guide.
- ④ Thread 1 through 4 in the same manner as single thread. See page 17.

**Threading the Machine**



- ③ Twin needle (stretch twin needle for knits)
- ② A: Metal foot
- ① ⚡ Straight stitch

Use the center needle position.



Turn off the power switch and insert a twin needle. Insert the additional spool pin and place the spool pin feet and second spool on it. See page 15.

A twin needle hem is quick and easy, especially stretch twin needle for knit fabrics. Be sure to use a stretch twin needle for very stretchy fabrics.

## Twin Needle Hem

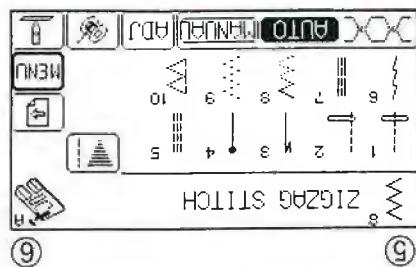
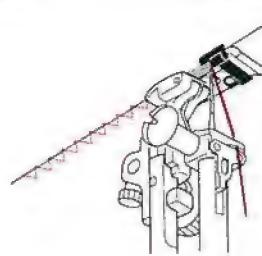


Sew.  
Place the fabric edge next to the foot black guide.

- \* Do not change the stitch width when using overcast foot C. This stitch can be used on most woven fabrics. It is the fastest way to finish an edge. The brush on the foot ensures the flat lies no puckering.

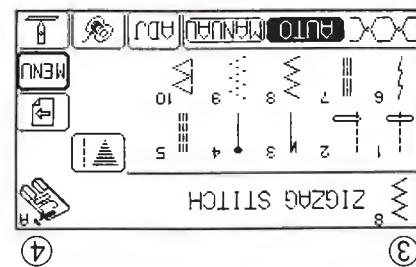
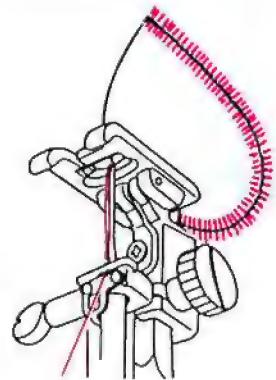
**Zigzag Overcast**

⑥ **Substitute** C: Overcast foot  
 ⑤ **Zigzag stitch**  
 Instead of A: Metal foot



- \* Sew design to fabric with the needle swinging off the applique.
- \* Cut out design shape. Fuse design to main fabric.
- \* Lightweight fabric.
- \* Press fusible webbing to the wrong side of a

**Applique Preparation**



### Satin Stitch Applique

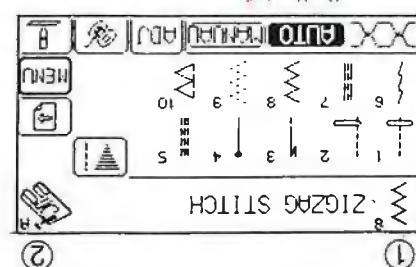
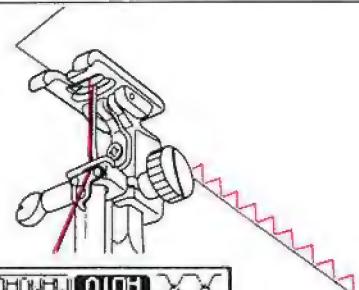
- \* Apply stabilizer to the fabric for proper stitch formation.

Change stitch width to 3.5 and stitch length to 0.35.

The satin stitch is commonly used for applique, monogramming, stems of flowers and details. Threads of 100% cotton, rayon or silk provide the best results.

**Satin Stitch Applique**

② **Substitute** F: Satin stitch foot  
 ① **Zigzag stitch**  
 Instead of A: Metal foot



### Whip and Roll Hem

The fabric edge must be clean. Lay the fabric edge in the center of the foot. The zigzag will catch the edge on the left and clear the raw edge on the right, rolling the fabric.

Change stitch width to 3.5 and stitch length to 0.8.

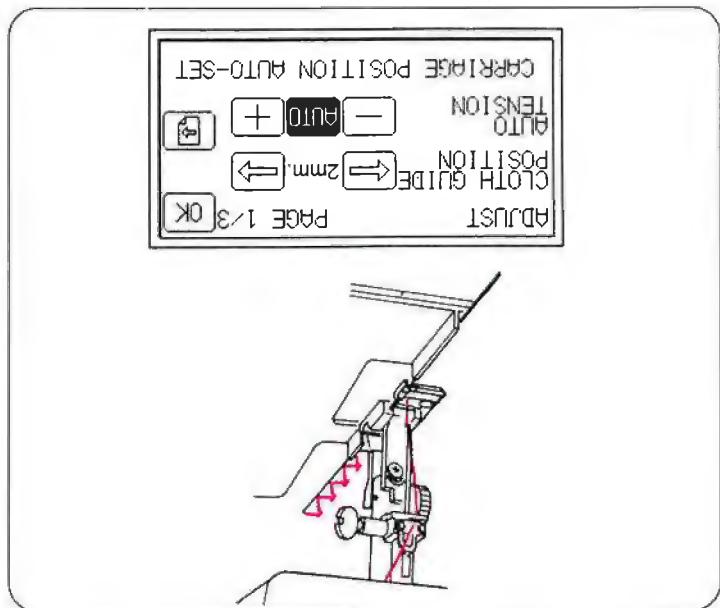
This technique produces a beautiful edge on ruffles and hems. Whip and roll is commonly used in hemroom sewing.

### Overcasting with Cloth Guide

Press the **OK** key.

To return the cloth guide to its original position,  
keep pressing the **←** key until the **OK** key is indicated.

- ① Select stitch 10 and attach overcasting foot M.
- ② Press the **[ADJ]** key and set the cloth guide distance 2 mm ( $1/16"$ ) by pressing the **→** key.  
(Press the **OK** key.)
- ③ Start sewing, feeding the fabric next to the fabric guide.
- \* Attach cloth guide. See page 25.

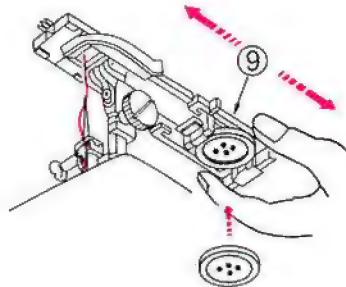


Computer Display Screen	Stitch	Purpose
8 ZIGZAG STITCH		The zigzag stitch is used to finish raw edges, roll hems, satin stitch appliqués and create beautiful monograms.
9 MULTIPLE ZIGZAG		The multiple zigzag stitch is used to finish fabrics that tend to pucker. The stitch is excellent for denim and mending tears in fabric. Sew next to fabric edge and hand trim away excess seam allowance.
10 OVERCASTING		The overcast stitch can be used to finish simultaneously stitch and overcast seams in one step. Use this stitch when you do not need to press seams open. Test the stitch on the fabric before sewing project.
21 KNOT STITCH		The knot stitch is recommended for sewing such fabrics as swimwear and stretch velour as it provides the greatest amount of elasticity and strength.
22 DOUBLE OVEREDGE		The double overedge stitch is an excellent stitch for fabrics that tend to fray excessively, such as linens and gabardines. Two rows of zigzag stitches are simultaneously sewn over the edge.
OVERLOCK STITCH		This stitch finishes the edges of your seams similar to a commercial overlocking machine for a professional look.

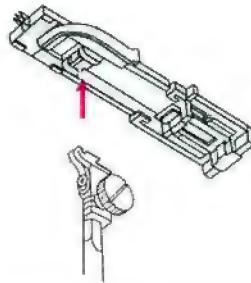
**Sensor Buttonholes**

The size of the buttonhole is automatically set by placing the button in it. Push the holder together tightly around the button.

The buttonholder on the foot adjusts for a button up to 2.5 cm (1") in diameter.



Extend the buttonholder to the back and place the button in it. Push the holder together tightly around the button.



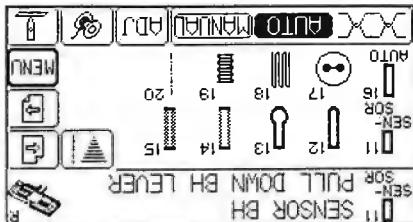
Attach the automatic buttonhole foot R. Make sure the button opening is at the back of the foot when it is attached.

Raise the needle and presser foot.

Press the key to select a buttonhole style. Alter the buttonhole width to match the fabric and thread. See page 42.

Test sew the buttonhole on a sample swatch of the same fabric. Include the interfacing and any seam allowances that will be in the actual garment. This is very important to ensure the buttonhole style and fabric are compatible.

Press the key to select a buttonhole style. Alter the buttonhole width to match the fabric and thread. See page 42.



**⑤ Stretch Knit Buttonhole**

For stretch fabrics.

**④ Knit Buttonhole**

For knit fabrics

**③ Keyhole Buttonhole**

For buttonholes on jackets

**② Rounded Buttonhole**

For buttonholes on fine fabrics

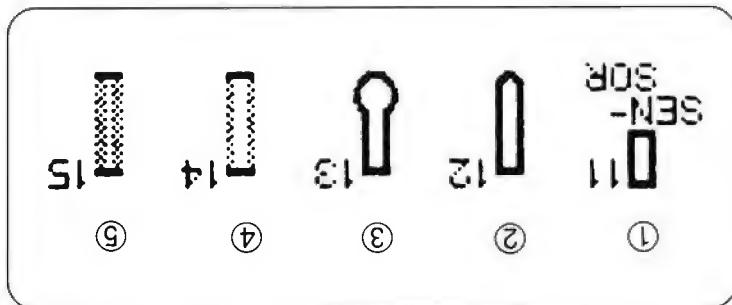
**① Classic Buttonhole**

For buttonholes on shirts and blouses

All buttonholes should use interfacing suitable for the fabric weight. This is especially important when sewing on stretch fabrics. There are five variations of sensor buttonholes:

Press the key.

**Sensor Buttonholes**



- ① the front left half of keyhole, zigzag on left side
- ② and straight stitch on right side to front
- ③ front right half of keyhole and zigzag on right side

The buttonhole will automatically sew:

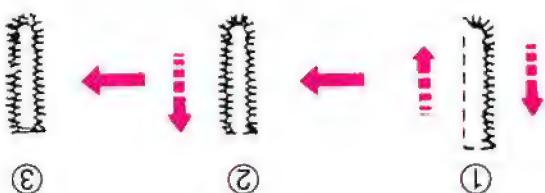
#### #13 Keyhole Buttonhole



- ① the front left half of rounded end, zigzag on left side
- ② slide and straight stitch on right side to front
- ③ back bartack and stop side

The buttonhole will automatically sew:

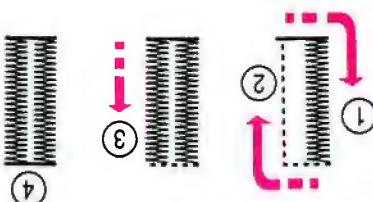
#### #12 Rounded Buttonhole



- ① the front bartack and zigzag on left side
- ② straight stitch on right side to front bartack
- ③ zigzag on right side
- ④ back bartack and stop

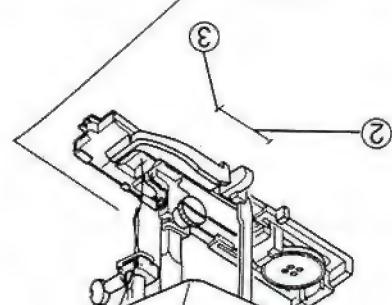
The buttonhole will automatically sew:

#### #11 Classic Buttonhole

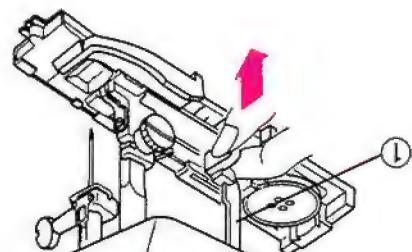


Press the foot control until the machine completes the buttonhole and stops by itself.

- ② Place both threads to the left under the foot. Insert the garment under the foot and lower the needle at the starting point. Then lower the automatic buttonhole foot.
- ③ Start stitching
- ④ Mark buttonhole placement

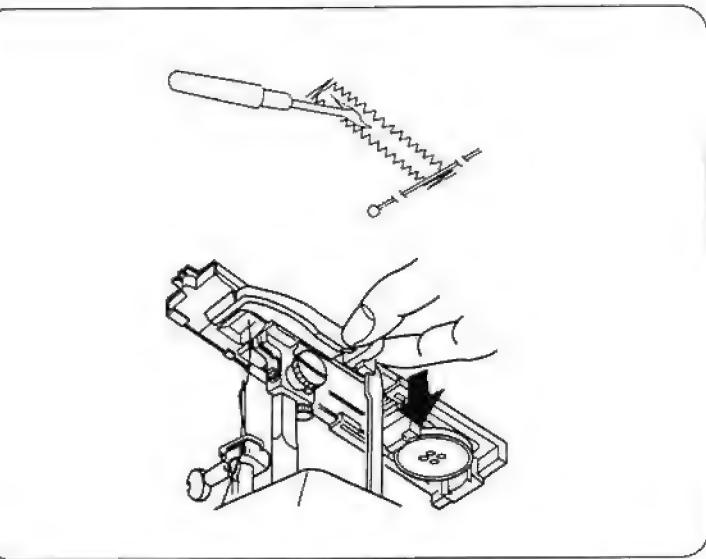


- ① Pull the buttonhole lever down as far as it will go.
- ② Sensor buttonholes (cont'd)



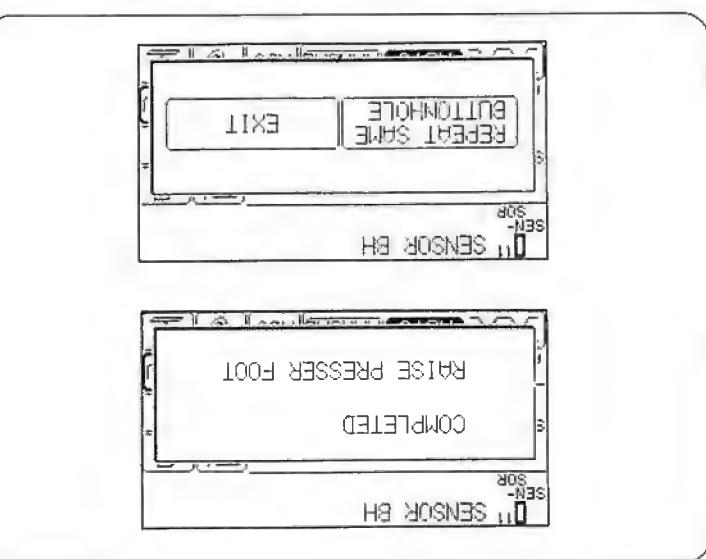
To cut the buttonhole open, place a pin just inside the bartack (to prevent accidentally cutting bartack) and use a seam ripper.

When buttonhole sewing is finished, push the buttonhole lever upward as far as it will go. Press the **BEST SAME** key to sew another buttonhole or to start from the beginning. Sew.



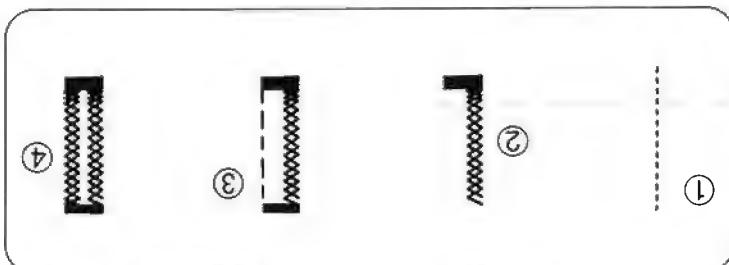
Raise the presser foot and the display message #14 and #15 will display no message. "Repeat Same Buttonhole" will appear. (Buttonholes #14 and #15

will display message "Completed".) The machine signals you when the buttonhole is finished. The display message will read "Completed" and "Raise Presser Foot". (Buttonholes #14 and #15 will display message "Completed".)



The buttonhole will automatically sew:

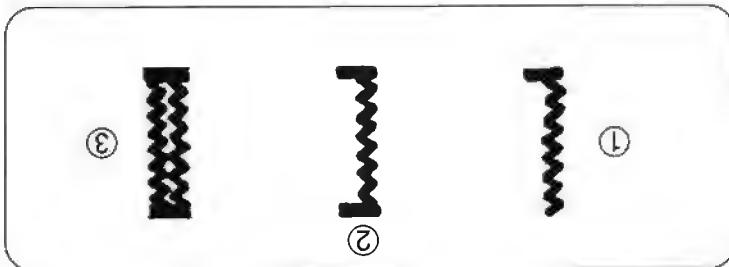
- ① straight stitch on left side backwards
- ② cross stitch forward on right side and front bartack
- ③ straight stitch on right side and backwards
- ④ cross stitch forward on right side and stop



#15 Stretch Buttonhole

The buttonhole will automatically sew:

- ① front bartack and triple zigzag on left side
- ② back bartack
- ③ triple zigzag on right side and stop



Sensor Buttonholes (cont'd)

#14 Knit Buttonhole

The buttonhole will automatically sew:

- ①
- ②
- ③

Adjust stitch length to correlate with fabric and thread weight. Use a short stitch length for fine fabric and a long stitch length for heavy fabric and thread.

- ⑥ Narrow width
- ⑦ Wider width
- ⑧ Shorter stitch
- ⑨ Longer stitch

The pre-programmed stitch settings are shown on the screen.  
Press the **[+]** or **[—]** key to alter the buttonhole.

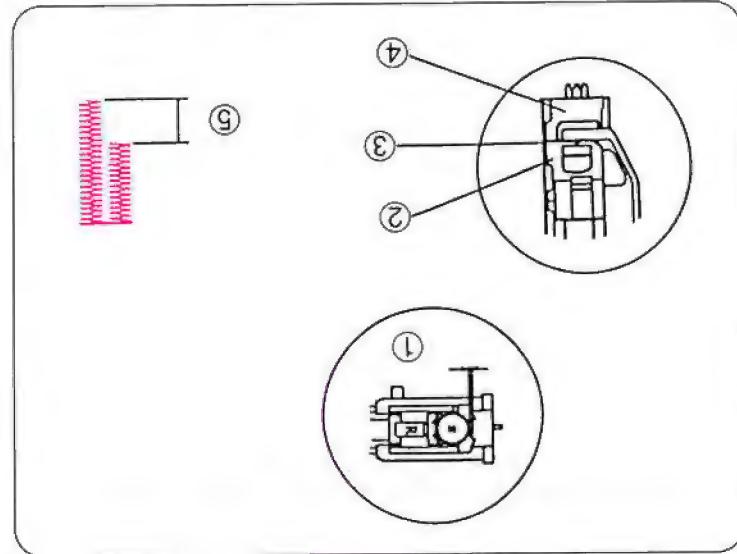
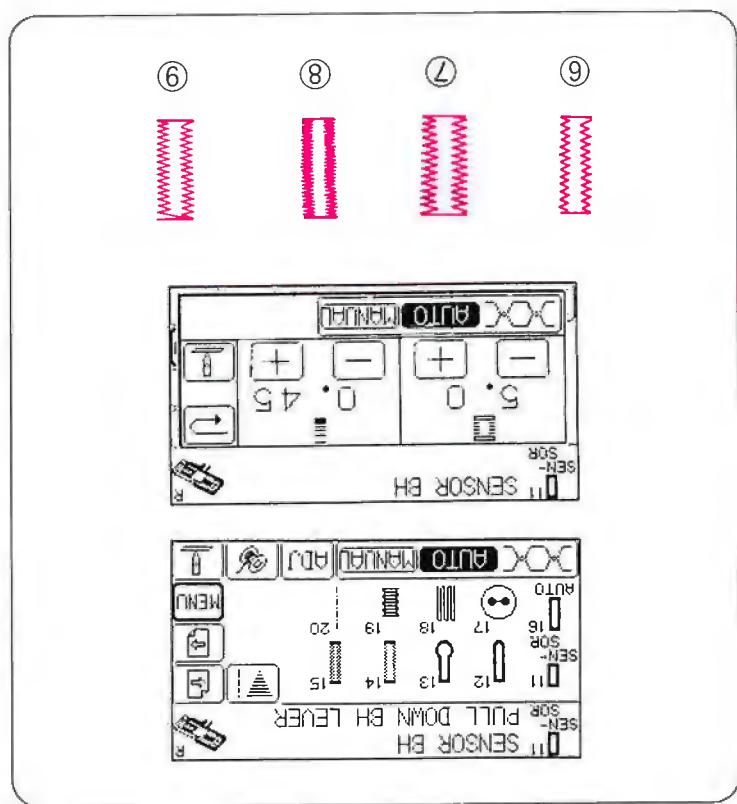
## How to Alter Buttonhole Stitch Width and Length

Make sure there is no gap between the slider and spring holder. If there is a gap, the sides of the buttonhole will be different lengths (⑥).

- ① Buttonholder
- ② Slider
- ③ There should be no gap
- ④ Spring holder
- ⑤ Correct buttonhole

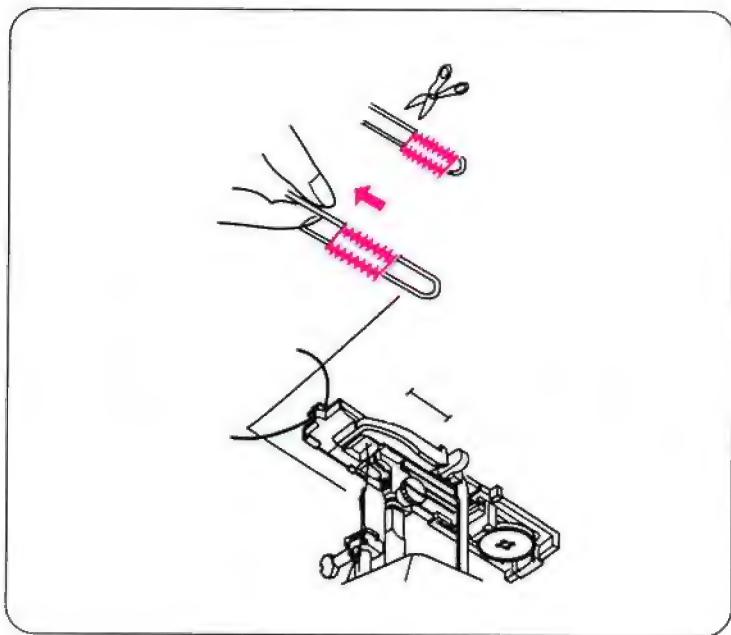
If the button is extremely thick and difficult to fit through the test buttonhole, you can lengthen the buttonhole by pulling back the buttonholder on the foot a little extra. The length of the buttonhole will increase by the same amount.

Sensor Buttonhole (cont'd)

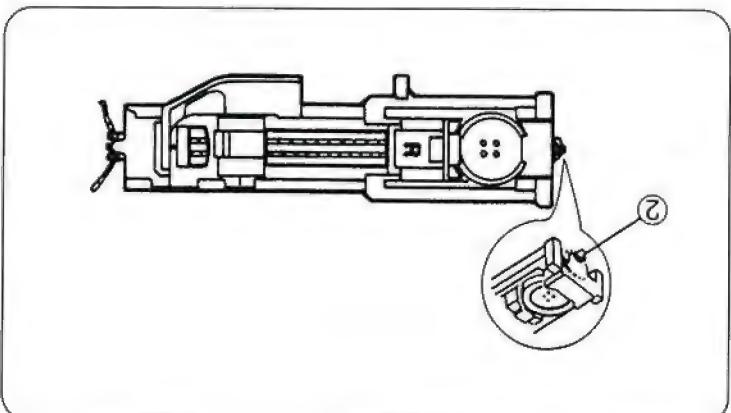


Cut open buttonhole.  
Pull the left end of the cord to tighten it. Thread the  
end through a darning needle, draw to the wrong side  
of the fabric and cut.

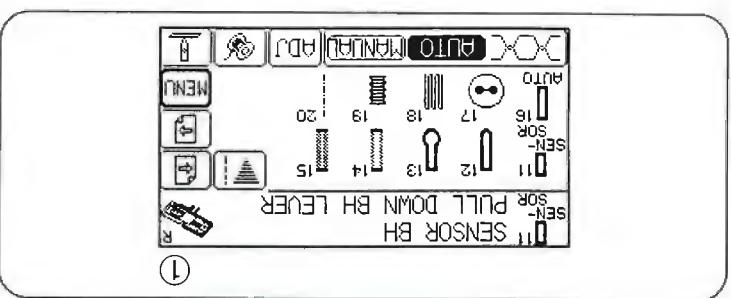
Press the foot control and slowly sew the buttonhole.  
Lower the needle into the garment where the  
buttonhole will start and lower the presser foot.  
Each side of the buttonhole and the bartacks will be  
sewn over the cord. Remove the fabric from the  
machine and cut only the sewing threads.



With the buttonhole foot raised, hook the filler cord on  
the spur at the back of the buttonhole foot. Bring the  
ends forward under the buttonhole foot. Position the  
cord into the forks on the front of the foot  
to hold them tight.



• Set the stitch width to match the thickness of the  
cording.  
Sew a corded buttonhole using the same procedure  
described on pages 39-41 for a classic buttonhole  
style.

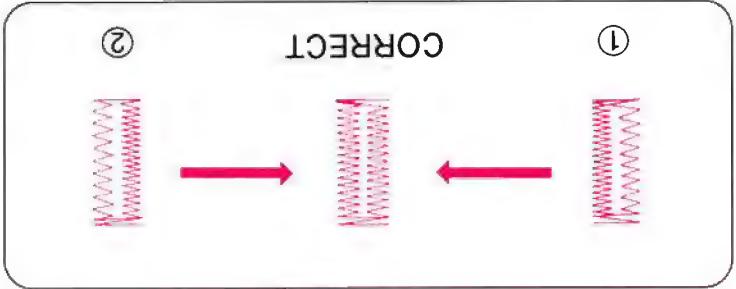


**Fine Tuning Adjustment**

① If the stitches on the left side are too far apart, turn the fine tuning dial towards the "+" sign.

② If the stitches on the left side are too close, turn the fine tuning dial towards the "-" sign.

Stitches on each slide of the buttonhole should be equal.



Sew another buttonhole; position the fabric and press foot control.

Sew the bartack and let the machine tie off the stitches and stop automatically.

Press the reverse key.

Sew the bartack and right buttonhole side. Stop sewing when the right side length is same as left side length.

Press the reverse key.

Sew the left buttonhole side. Stop sewing when desired length is sewn.

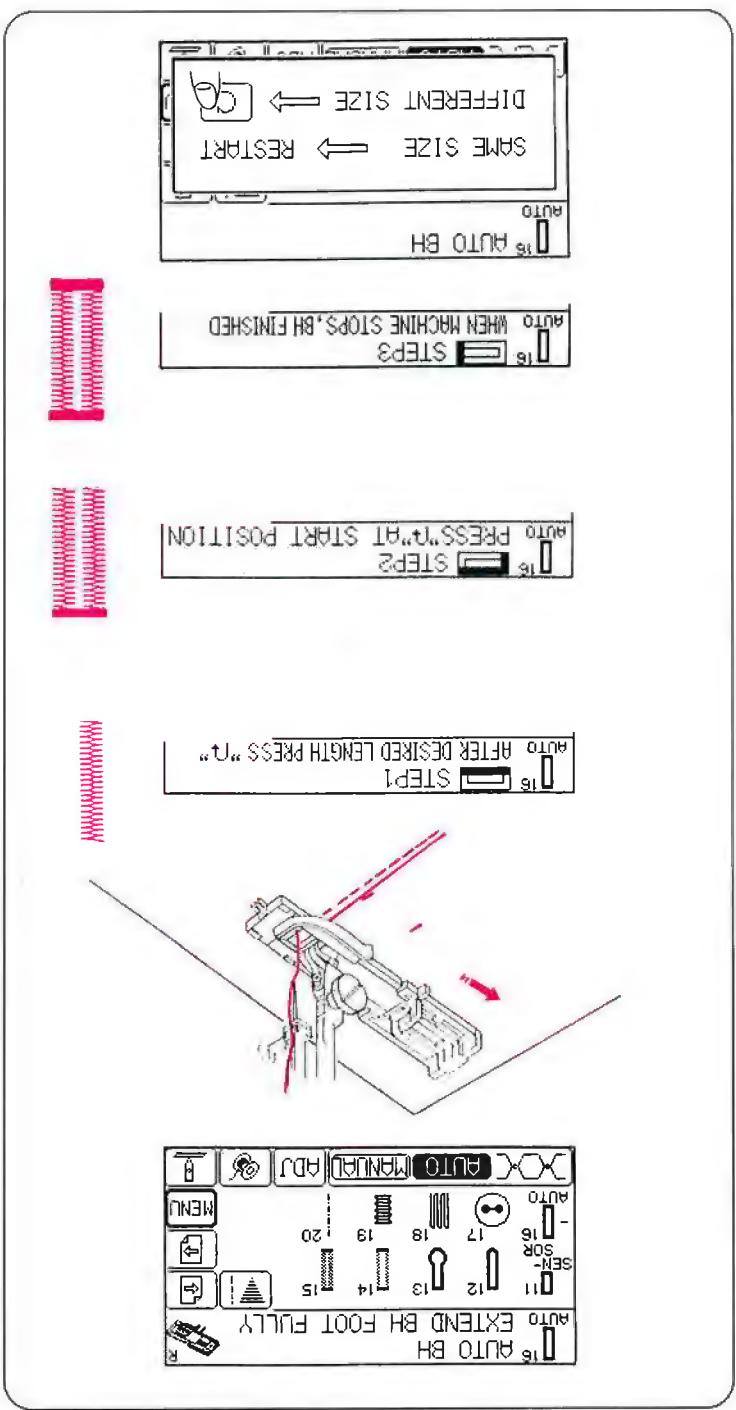
Mark buttonhole placement on garment. Place both threads to the left under the foot. Insert the needle at starting point. Lower the foot.

Under the foot and lower the needle at the starting point. Lower the foot.

Raise the needle and presser foot. Attach the automatic buttonhole foot R. Extend the buttonholder completely open.

All buttonholes should use interfacing suitable for the fabric weight. Test sew the buttonhole on a sample swatch of the same fabric. Include the interfacing and any seam allowances.

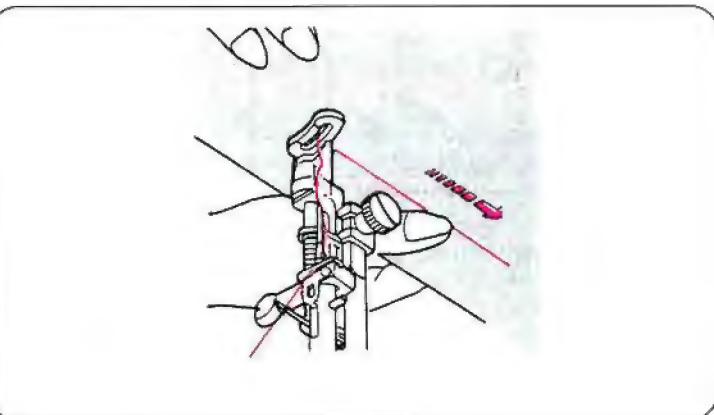
## Automatic Buttonhole



- \* When basting is complete, reset foot pressure dial, attach shank and raise the feed dog.

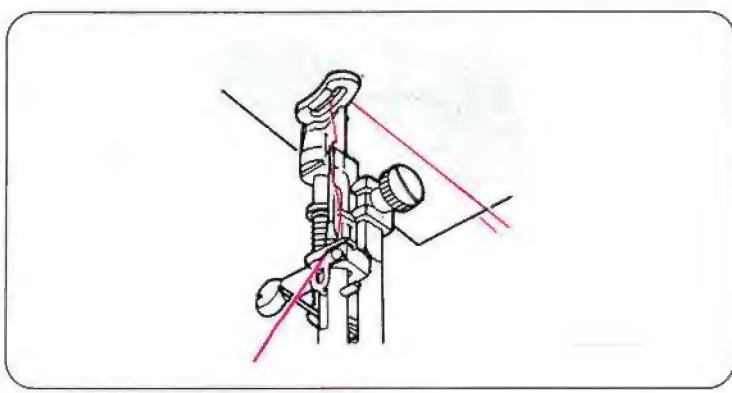
Continue the procedure until all basting is complete.

Hold the fabric firmly and move it to the area for the next stitch. Press the foot control.



Press the foot control. The machine will sew one stitch and stop.

Pull needle and bobbin threads behind the presser foot. Place fabrics under foot and lower presser foot.



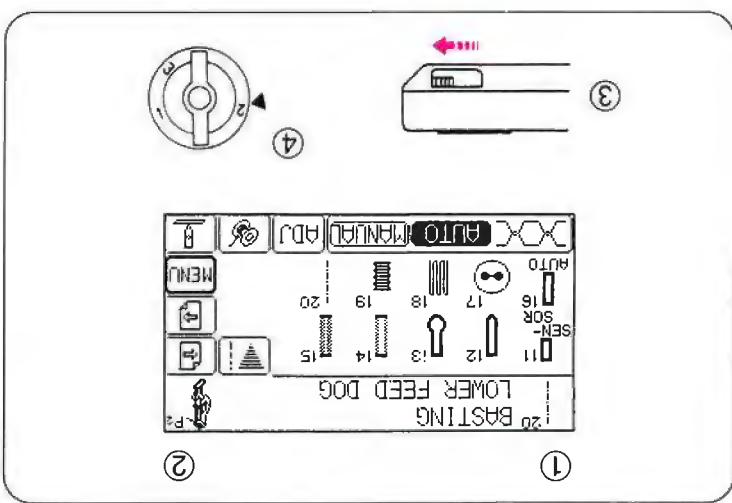
④ Set foot pressure dial to 2 (see page 6)

③ Lower feed dog (see page 9)

② P2: Darning foot (see page 36)

① Basting

The basting stitch can be used to temporarily hold two or more layers of fabric together. Use a fine needle to avoid leaving permanent needle marks.



## Basting

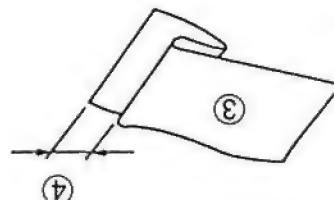
## Blind Hem Stitch

Press the key.

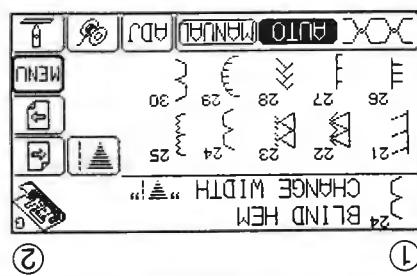
① Woven blind hem  
or  
② Stretch blind hem  
③ Fold up the hem allowance and press. Fold under 10 mm ( $1/4"$  to  $3/8"$ ) extension at the right.

1 Fold up the hem allowance and press. Fold under 10 mm ( $1/4"$  to  $3/8"$ ) extension at the right.  
2 Position the fabric so the folded edge is to the left side of the guide. Lower the presser foot.

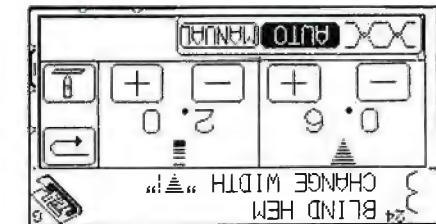
④ Wrong side of fabric  
⑤ 6.5 – 10 mm ( $1/4"$  to  $3/8"$ )



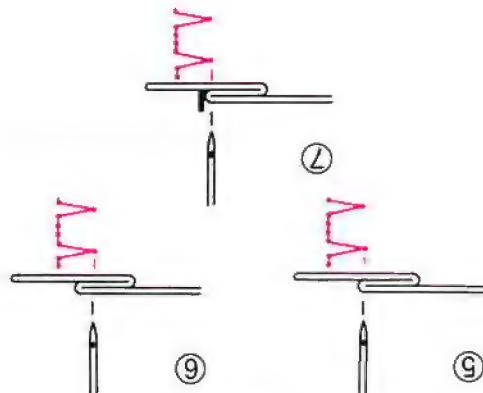
1



2



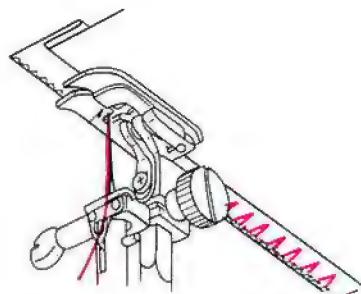
⑥ Move needle position right   
⑦ Move needle position left   
⑧ Correct fabric and needle position.



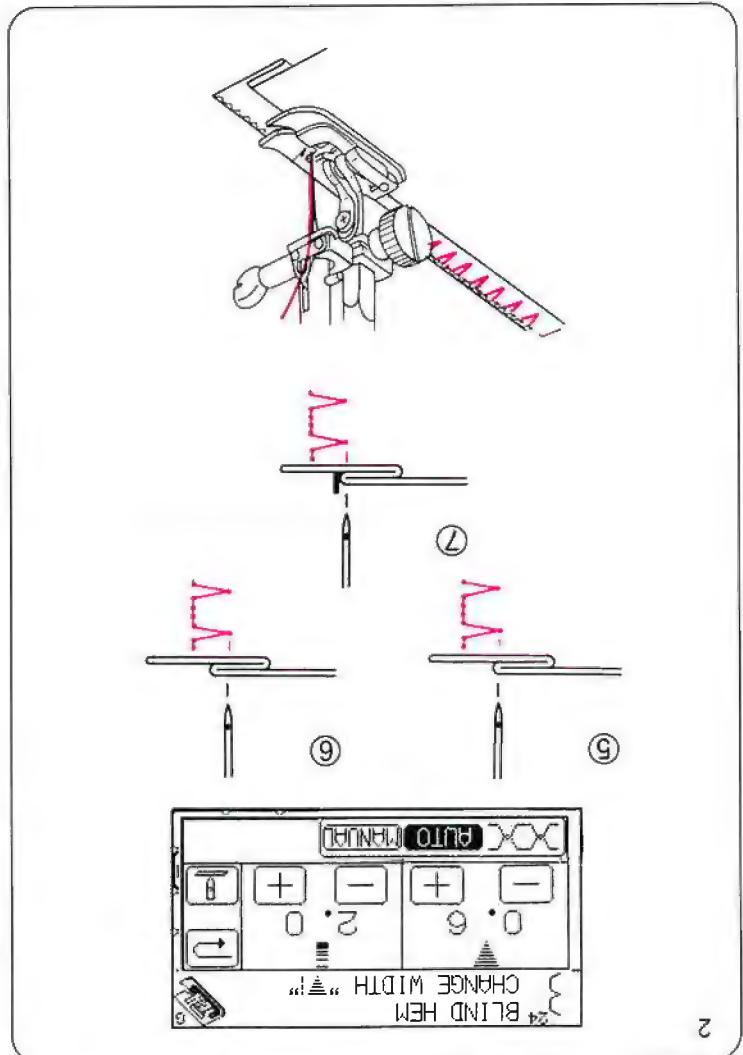
- \* TIP: Fold the fabric with only a 0.2 cm ( $1/8"$ ) extension. While sewing, the stitch will fall off the fabric and form a chain on the fabric edge.

- \* 0.6 on the computer display screen indicates the distance between the guide and needle.

Sew with the folded edge against the foot guide.



Press the key. Adjust the position of the needle swinging with the stitch width key. Make sure the needle catches only one or two fibers of the fold.



2

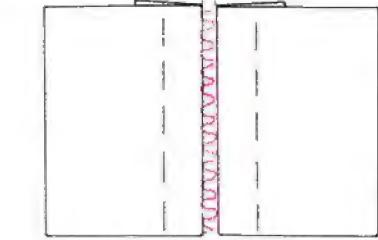
Place folded fabric right side up on both sides of fagoting plate. Sew slowly, guiding the fabrics against the fagoting plate. Adjust stitch width so needle catches folded edges.

Fold and press under seam allowance to wrong side of fabric.

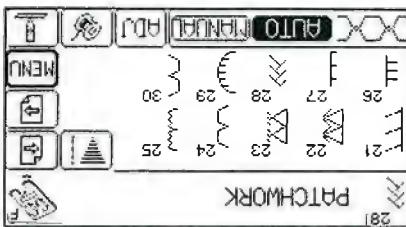
Remove the bobbin cover plate and attach the fagoting plate.

⑧ Fagoting plate (optional accessory)

⑦ F: Satin stitch or  
⑥ Patchwork stitch or  
⑤ 28 33 34



⑧



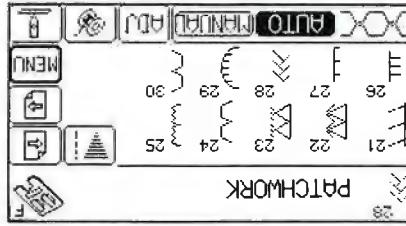
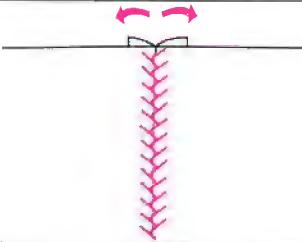
⑨

Fagoting is a technique seen in heirloom sewing. Two folded edges are joined together by threads over an open area.

### Fagoting (Bridging)

⑤ F: Satin stitch foot  
④ Patchwork stitch  
③ 28  
② 29  
① 30

Sew a straight stitch seam and press seam allowance open. Sew patchwork stitch on right side of garment centring it over the seam line.



⑩

### Patchwork

① 26  
② 27  
③ Foot pressure dial (2)  
④ F: Satin stitch foot  
⑤ 28  
⑥ Buttonhole applique stitch

Press the applique in place and sew. Straight stitch edge is sewn next to the folded edge of the applique. Fold the fabric under to match paper pattern size and press only the edge to form a perfectly shaped design.

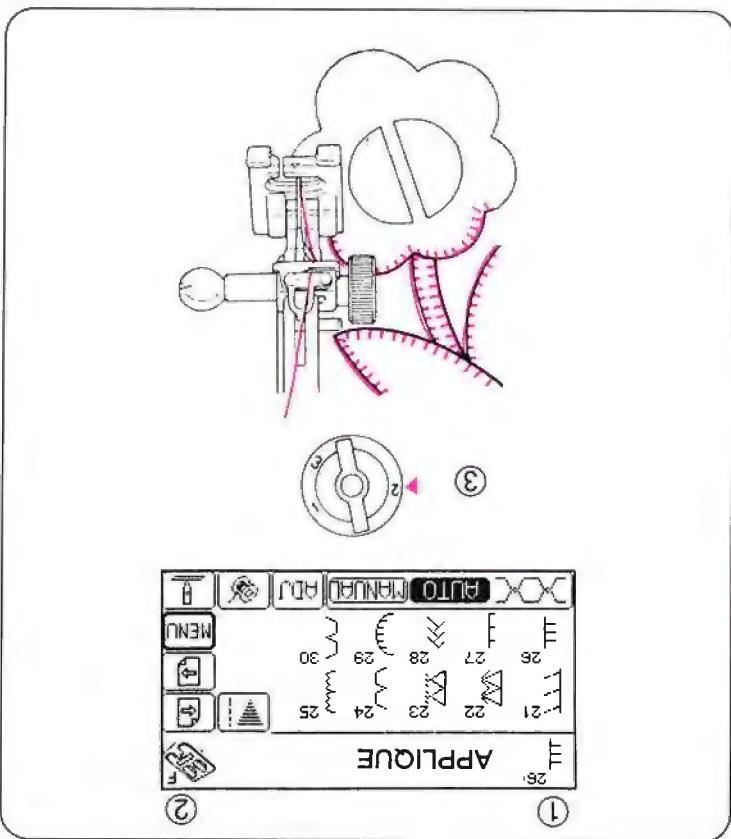
Press a fusible webbing to the wrong side of the fabric, then cut the fabric slightly larger than the paper pattern. Fold the fabric under to match paper pattern size and press only the edge to form a perfectly shaped design.

To prepare the raw edge, first cut the applique design out of paper. In this type of applique, raw edges are folded under. Use fine cotton embroidery thread (50 weight or finer) and needle appropriate to fabric. You may need to set the foot pressure dial to 2. In this type of applique, raw edges are folded under.

Use fine cotton embroidery thread (50 weight or finer) and needle appropriate to fabric. You may need to set the foot pressure dial to 2.

### Buttonhole Applique

① 26  
② 27  
③ 28  
④ 29  
⑤ 30



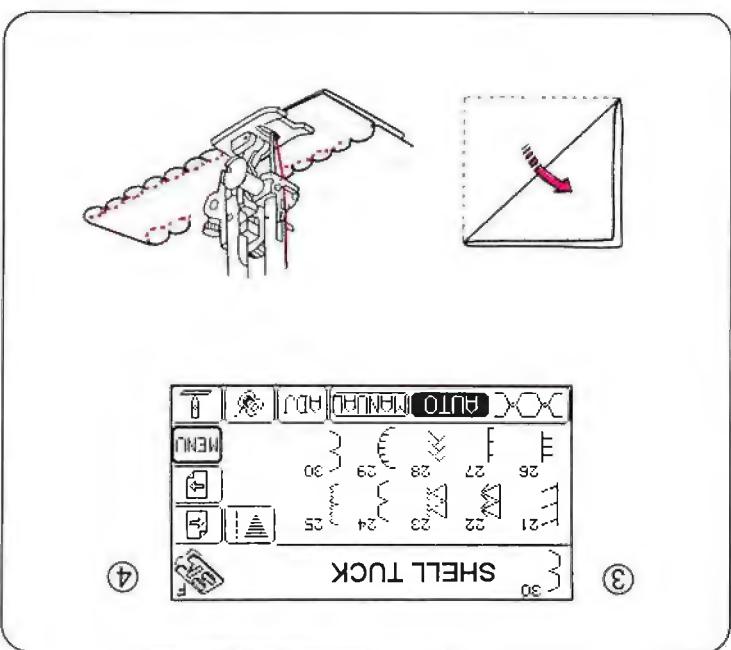
Reset thread tension to "Auto" after sewing is complete.

If you sew rows of shell stitches, space the rows at least 1.5 cm (5/8") apart.

You can sew shell stitches in any direction on knits or soft silky wovens.

Use a lightweight fabric such as tricot. Fold and stitch on the bias. Set the stitch width and length as you desire. You may need to tighten the top thread slightly. Allow the needle to just clear the folded edge of the fabric when it swings off the fabric to the right.

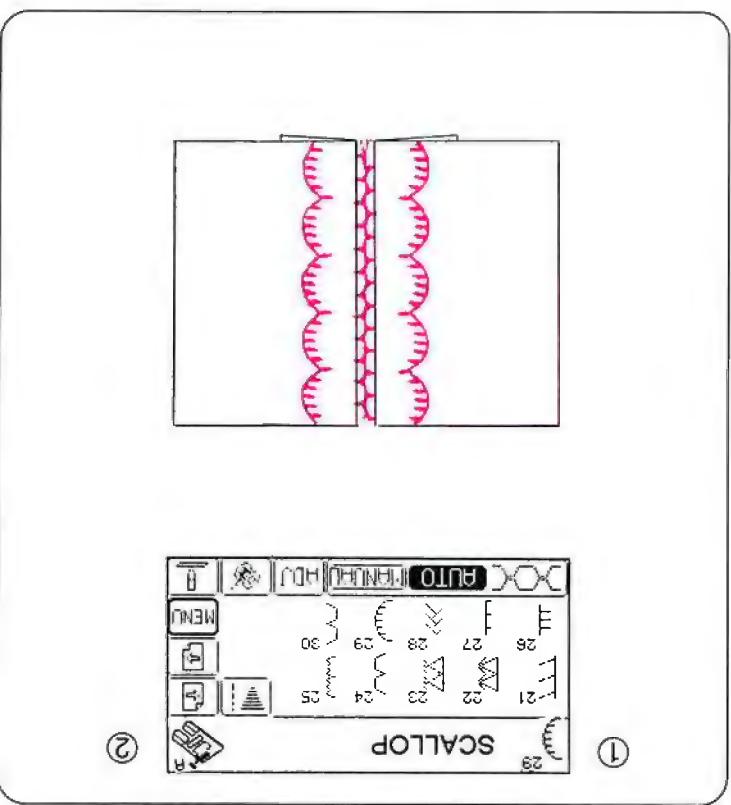
### Shell Stitch



Turn the fabric around and sew the other side using same method.

Position the fagoting stitch off to the left side of the foot. Sew, using the edge of the foot against the fagoting as a guide.

*Instead of:* A: Metal foot  
② Substitute F: Satin stitch foot  
① ⌂ Scallop or ⌂, or ⌂  
29 the scallop is a decorative stitch. See page 51.  
The scallop enhances the beauty of the fagoting technique. Sew



\* Adjust fine tuning until needle precisely penetrates each repeat hole. See page 5.

Draw design lines with a washable fabric marker. Sew slowly over design lines.

⑤ Wing needle

④ Satin stitch foot

③ 35 36 37 38 39 40

Thread machine, needle and bobbin with a fine cotton or a blend of linen/cotton.

Several stitches to choose from that will add an "old world charm". Best results require the use of linen, was traditionally only a hand sewn art. There are Hemstitching, also known as French hand sewing, and bobbin hemstitching.

Hemstitching, also known as French hand sewing, was traditionally only a hand sewn art. There are several stitches to choose from that will add an "old world charm". Best results require the use of linen, was traditionally only a hand sewn art. There are Hemstitching, also known as French hand sewing,

**Hemstitches**

⑤ Wing needle

④ Satin stitch foot

③ 35 36 37 38 39 40

④ HEMSTITCH

Detailed description: This panel shows a wing needle being used to sew a decorative line of stitching on a garment. A close-up of the wing needle is shown on the left. The main diagram shows a garment with a decorative line of stitching. A control panel at the bottom shows the stitch selection dial set to 35, which corresponds to the hemstitch icon.

\* Stitches 28, 95, 127 or 128 may also be used.

② Smocking stitch, remove gathering

① Gathering lines - 1 cm (3/8") apart

Select smocking stitch .

Press the key three times.

Sew rows of straight stitches approximately 1 cm apart, across the area to be smocked. (A looser thread tension and pressure if necessary and sew smocking stitch between the straight seams. Pull out the gathering stitches.

Reduce the tension and pressure if necessary and sew smocking stitch between the straight seams. Pull out the gathering stitches.

Press the key twice. You will use straight stitch and set stitch length at 4.5.

Cut the fabric twice times the finished width.

Lightweight fabrics such as batiste, gingham or challis, children's clothes or women's blouses. Choose a soft, smocking is a delicate, decorative treatment on

**Smocking**

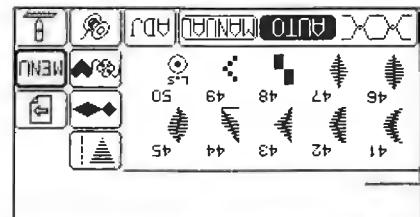
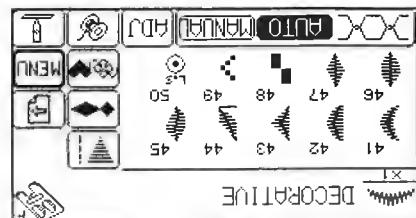
② Smocking stitch, remove gathering

① Gathering lines - 1 cm (3/8") apart

③ GRANDMA GARDEN

④ STRAIGHT STITCH

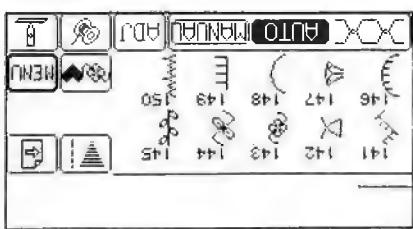
Detailed description: This panel shows a garment being gathered using a smocking stitch. A close-up of the smocking stitch is shown on the left. The main diagram shows a garment with gathered lines. Control panels at the bottom show the stitch selection dial set to 31, which corresponds to the smocking icon, and the stitch selection dial set to 1, which corresponds to the straight stitch icon.



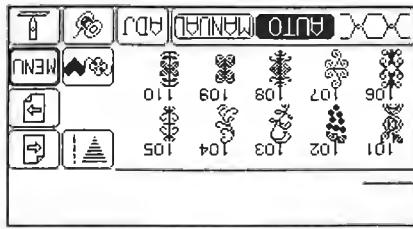
The stitch will appear in the upper left corner and a suggested foot in the upper right corner.

Select the stitch by touching the display key.

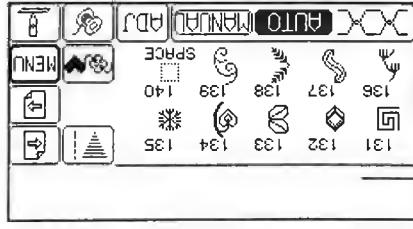
### How to Select a Stitch



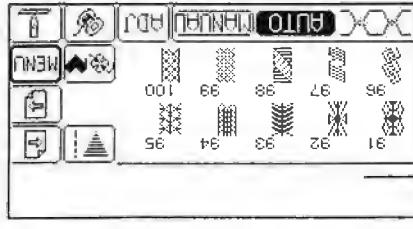
⑩ Stitches 141 to 150



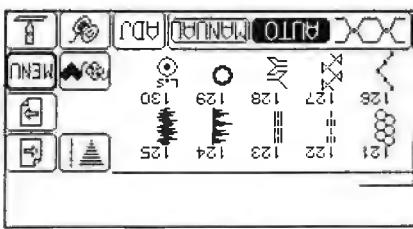
⑪ Stitches 101 to 110



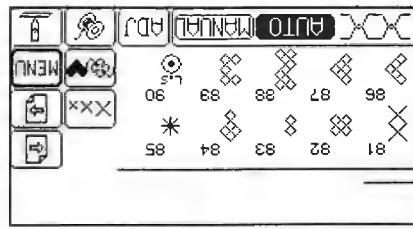
⑫ Stitches 131 to 140



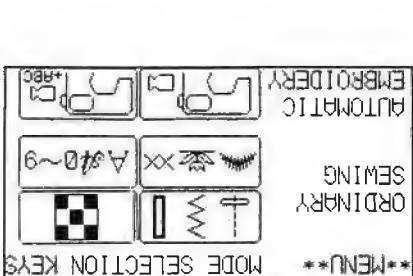
⑬ Stitches 91 to 100



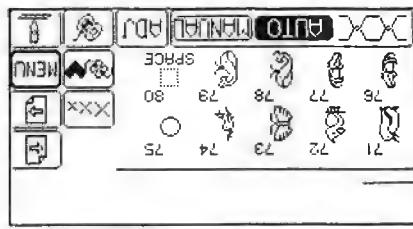
⑭ Stitches 121 to 130



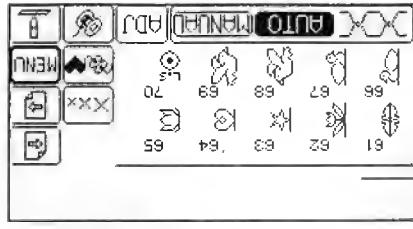
⑮ Stitches 81 to 90



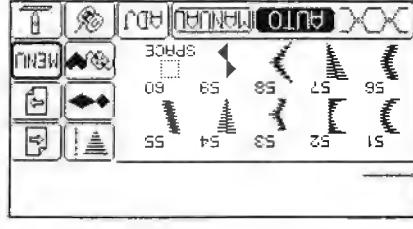
⑯ Stitches 41 to 50



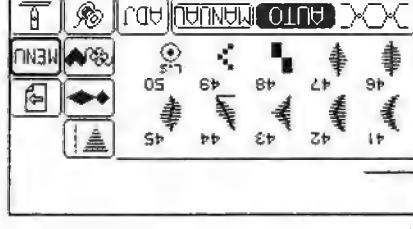
⑰ Stitches 71 to 80



⑱ Stitches 61 to 70



⑲ Stitches 51 to 60



⑳ Stitches 1 to 40

Press the key. Press the or key to change the computer display screen between the 11 different displays.

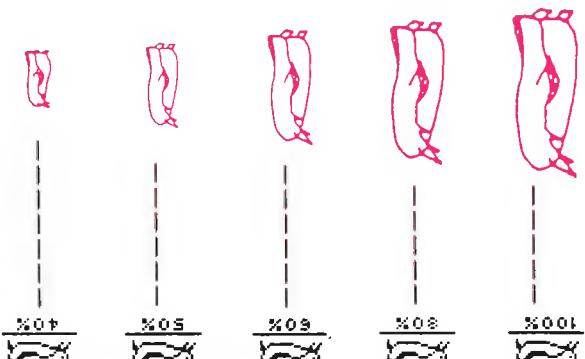
Press the key to access the mode selection keys.

**DECORATIVE MODE**

## SECTION IV

Decorative stitches 61 through 89 (exclude locking stitch 70 and space stitch 80) may be reduced in size. Press the **XXX** key and the locking stitch 70 and space stitch 80 may be reduced under the size key.

②  Penguin design

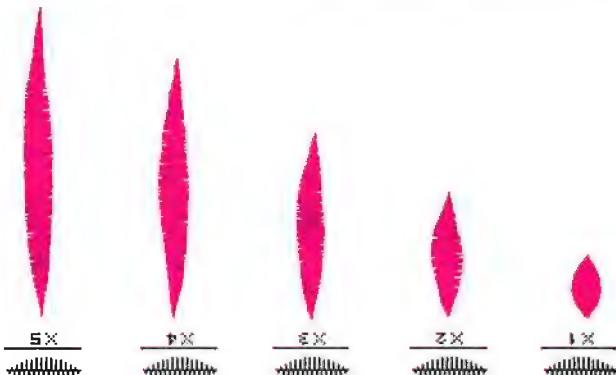


**Size Key** 

Satin stitches 41 through 59 (exclude locking stitch 50) may be lengthened up to five times their regular size without the stitch elongated varying. Press the **◆◆** key and the stitch elongated size is indicated under the elongation key.

④  Decorative stitch

- Change the stitch width or length for maximum stitch options.

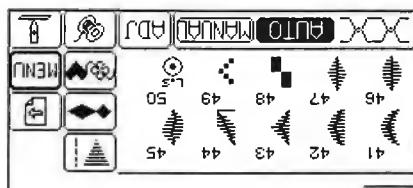


①  ELONGATION

Width and length are automatically set after selecting the stitch. Press the **■■■** key to adjust stitch width or length.

**Stitch Width and Length Key** 

**Function Keys**



If you start sewing the memorized stitches and stop sewing before the sequence is complete, it is possible to sew from the beginning of the sequence. Press the **AB** key again to show original

**Beginning Key**

Before sewing a long sequence of memorized stitches, it is advisable to check for programming errors. Press the **M** key and the entire memorized sequence will appear in the screen.

**Memory Check Key**

Press the **C** key while memorizing stitches and the last memorized stitch will be cleared (like a backspace). Press the **C** key during memorized sewing and the entire sequence of sewing and the entire memorized sequence is cleared.

**Clear Key**

The machine has separate memories for combination stitches. Press the **M** key to store the memorized stitches. The stitches will be stored for approximately 3 weeks with the power switched off.

**Recall Key**

Press the **TOM** key after selecting a stitch to memorize and invert the stitch. The computer display screen will show the stitch in "mirror image".

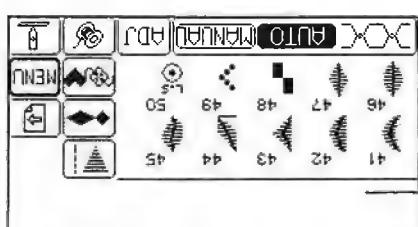
**Store Key**

Press the **M** key after selecting a stitch and the stitch will be memorized as many times as the key is pressed. When the key is pressed after selecting another stitch, that stitch will be memorized after the previously memorized stitch.

**Memory Key**

Decorative stitches may be combined to form beautiful borders and designs. (Maximum combined capacity is 50 stitches.)

**Combination Key**



## How to Program Decorative Stitches

**Combining Motifs**

① Select stitch 43.

② Press key.

③ Press **M** key to memorize stitch 43. (An auto-lock stitch is pre-programmed at the beginning of the lock stitch.) The cursor should be blinking after the lock stitch is pre-programmed at the beginning of the lock stitch. (An auto-lock key to move to next page.

④ Press key to move to next page.

⑤ Select stitch 56.

⑥ Press **M** key to memorize stitch 56.

⑦ Place fabric and stabilizer under foot and press foot control to sew memorized motifs repeatedly.

\* Press the auto-lock key while sewing the last desired motif within the combined sequence. The machine will complete the motif, auto-lock and stop.

\* Single motifs may be sewn without being memorized. Begin sewing the motif and press the auto-lock key. The machine will complete the motif, auto-lock and stop.

\* Place fabric and stabilizer under foot and press foot control. Machine will auto-lock, sew motif, auto-lock and stop.

\* Press **M** key to memorize locking stitch 50.

④ Select stitch 50.

⑤ Press **M** key to memorize locking stitch 50. (An auto-lock stitch is pre-programmed at the beginning of the lock stitch.) The cursor should be blinking after the lock stitch is pre-programmed at the beginning of the lock stitch. (An auto-lock key to stop.

⑥ Press key.

⑦ Select stitch 41.

**Single Motifs**

auto-lock and stop.

① Select stitch 41.

② Press key.

③ Press **M** key to memorize stitch 41. (An auto-lock key to stop.

④ Press key.

⑤ Select stitch 50.

⑥ Press **M** key to memorize stitch 50.

## Combining Motifs with Turn-over (Mirror Image)

- ① Select stitch <sup>43</sup>.
- ② Press key.
- ③ Press **M** key to memorize stitch . (An auto-lock stitch is pre-programmed at the beginning of the sequence.) The cursor should be blinking after the stitch.) The cursor should be blinking after the sequence.
- ④ Press key to move to next page.
- ⑤ Select stitch <sup>58</sup>.
- ⑥ Press **TOM** key to turn-over/memorize stitch .
- ⑦ Place fabric and stabilizer under foot and press foot control to sew new sequence.
- Stitches 71 through 79 are pre-programmed to auto-lock, sew the stitch, auto-lock and stop. There is no need to memorize the stitch or to press the auto-lock key.
- \* Sew more than one crocodile by memorizing them.
- Press the **Xxx** key to vary the crocodile size.

### Memory Lock Stitches



71 72 73 74 75 76 77 78 79



①



②



③



④



⑤



⑥





⑦



⑧

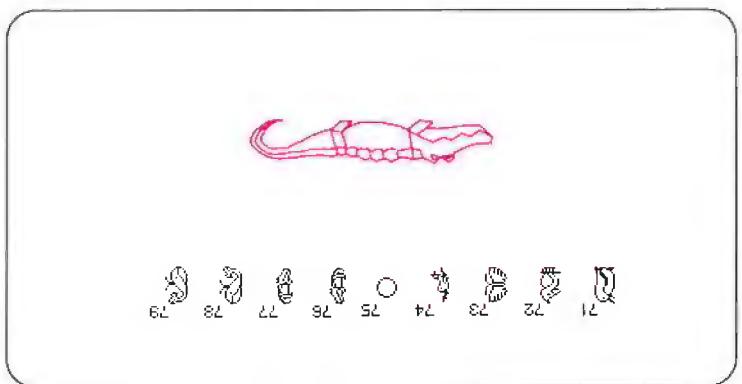


⑨



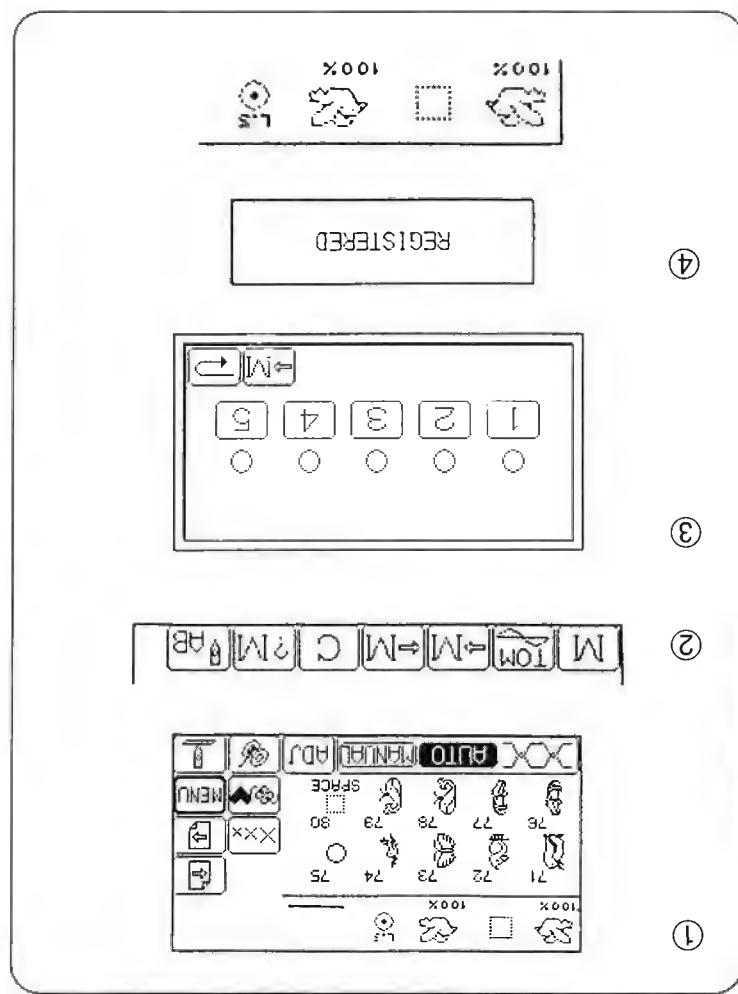
⑩





**Storage Memorized Stitches**

- ① Memorize stitches 69, 70, 68, 71.
- ② Press **M** key.
- ③ The display screen will change. Press **1** key for the location to store the stitches; press **M** key for the location to store the stitches; press **M** key for two seconds. The memorized/stored stitches will appear.
- ④ "Registered" will appear in the screen for two seconds. If you store a new combination in an already occupied location, the old combination will be deleted.

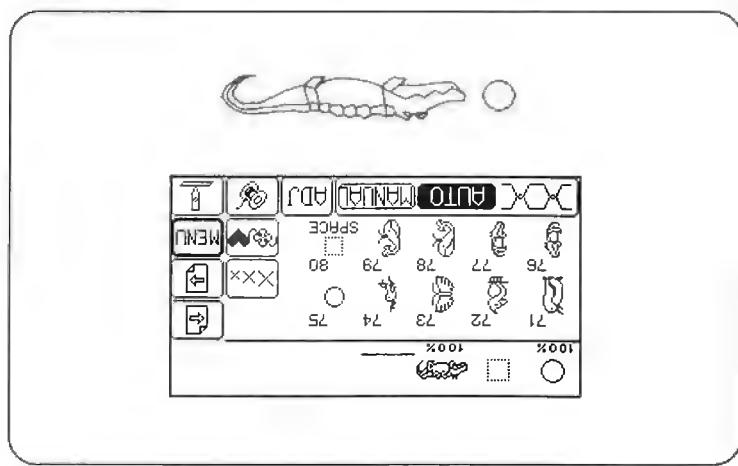


**Adding Space Between Memorized Stitches**

When sewing two different stitches together, they may overlap or need more space between them. Cut connecting threads with curved scissors which allow you to lift up the thread and cut it close to the stitching.

Sew sample.

Memorize stitches 75, 80, 76.

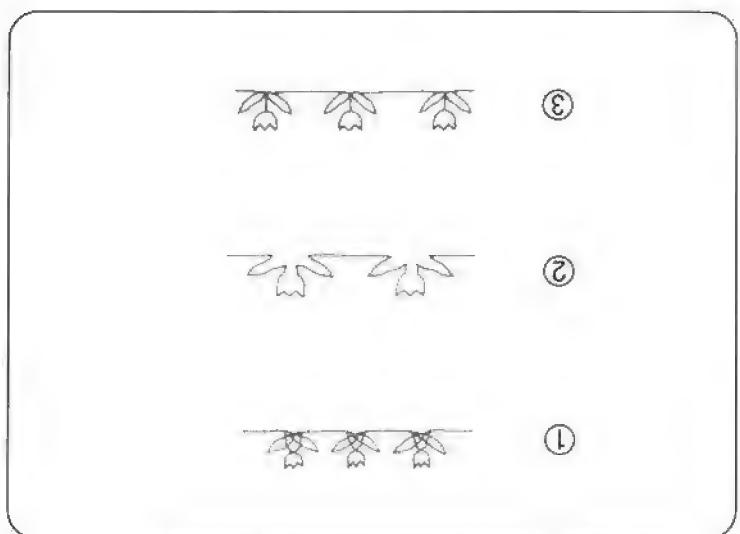


### Fine Tuning Adjustment

① When design is overlapped, turn the fine tuning dial towards the "+" sign.  
If the designs are uneven and distorted, adjust them with the fine tuning dial. See page 5.

② When design is drawn out, turn the fine tuning dial towards the "-" sign.

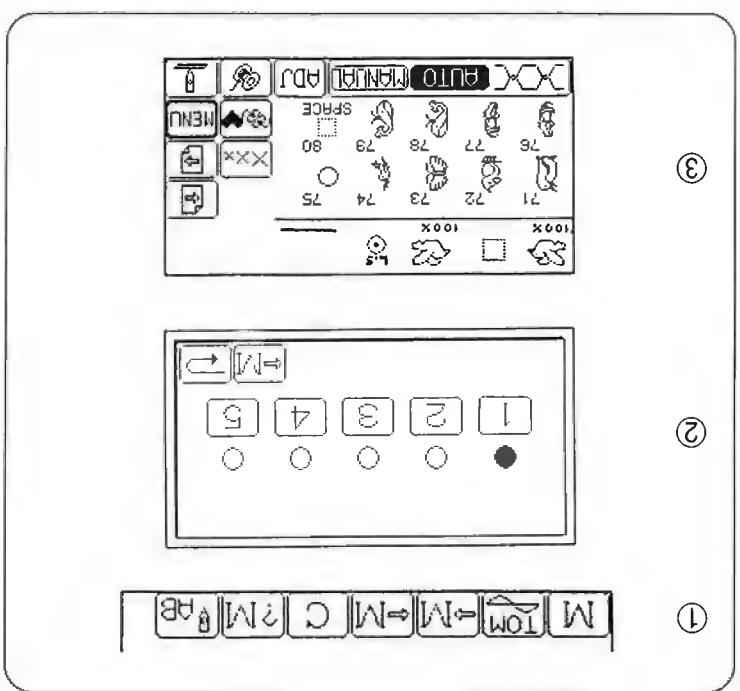
③ Fine tuning correct



③ The computer display screen will display the stored sequence after two seconds.

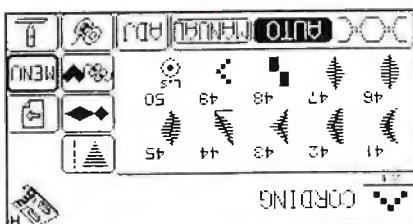
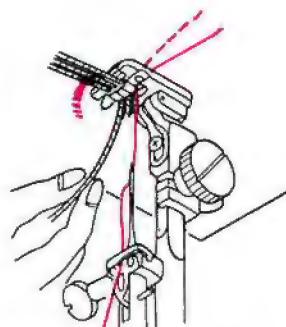
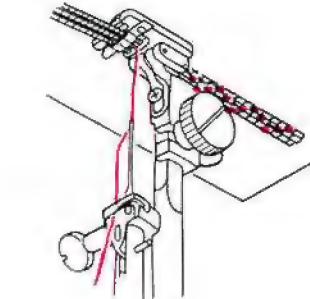
The "•" indicates that the sequence is stored.  
① Press **M** key.  
② The display screen will change.

To recall stiches 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100 stored in location number 1.



## Triple Cording

- Sew over three strands of cording to create unique floss, lace thread, fine wool or lily yarn may be used as cording.
- Mark the design on the right side of the fabric.
- Slide the sewing threads to the left and insert three strands of cording into the slots of foot H with 10 cm (4") extending behind the foot. (The slots on foot H will hold the lengths of cording in place while the stitches form over the cording.)
- Sew while guiding the cording over the design line.
- Select stitch and sew a single strand of cord using stitch .
- Change the width to 3.0. Insert the single strand of cording in the center groove of foot H.



①

② H: Multi-cord foot

③ Cording stitch

④ Locking stitch

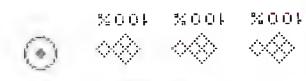
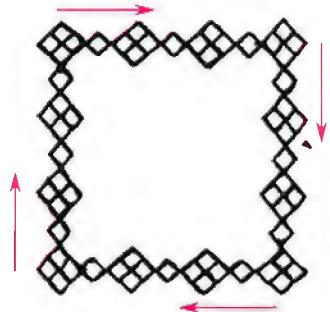
- Sew over three strands of cording to create unique floss, lace thread, fine wool or lily yarn may be used as cording.

## Grandma Garden

- Select stitch and press the **M** key three times.
- Select stitch and press the **M** key once.
- Place fabric and stabilizer under presser foot. Lower the needle at the starting point and sew until the machine stops automatically.

- Lower the needle at the end point and turn the fabric 90 degrees.
- Sew the second row until the machine stops automatically.

- Complete the square pattern, repeating the same procedure.



100X 100X 100X

**Shadow Stitches**

Shadow stitches may be used for quick and neat outline designs. Use them to enhance appliqués and create your own machine embroidery motifs. Draw the design on the right side of the fabric. Place a stabilizer or iron-on interfacing beneath the fabric areas. You may need to pivot on sharp curves. Reduce the pressure to facilitate sewing curved stitch length and width to achieve the desired effect. Use the automatic setting or manually adjust the second row in the same or varied thread color can be sewn inside the first row for a more pronounced outline.

Reset foot pressure dial to 3 after shading stitches are sewn.

Set foot pressure dial to 2.

Select stitch 124 or 125.

You can easily duplicate hand quilted stitches by using monofilament thread in the needle, 60 weight cotton thread on the bobbin and changing needle tension to 7.8. See page 21.

- **Quilt Stitch**

\* You may want to reduce the pressure when sewing curves.

Secure the threads with the locking stitch.

Stitch slowly by guiding foot F over the traced line, pivoting at corners.

Lightweight fabrics.

Trace your design on the right side of the fabric. Place a stabilizer underneath for extra support on

stitches and one forward stitch.

The sculptured look is formed by five back and forth

table lines and crafts.

### SCULPTURE STITCH (QUILT STITCH)

Seam Variations		
Stitch Width	Stitch Length	
7.0	1.0	
5.0	2.5	Automatic Setting

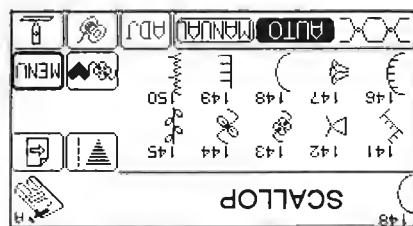
Turn the hem to right side and press.

Trim close to stitching leaving 0.3 cm (1/8") seam allowance. Clip seams as shown or trim with pinking shears.

Fold hem with right sides together. Sew scallops 1 cm (3/8") from folded edge.

A scallop hem is a beautiful method of finishing pocket edges, sleeves, table linens, etc.

### Scallop Hem



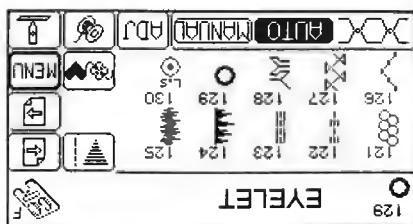
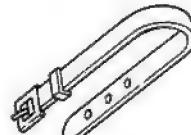
Cut open the eyelet with a seam ripper, pointed scissors or an awl.

Press the foot control and the machine will sew an eyelet and stop automatically.

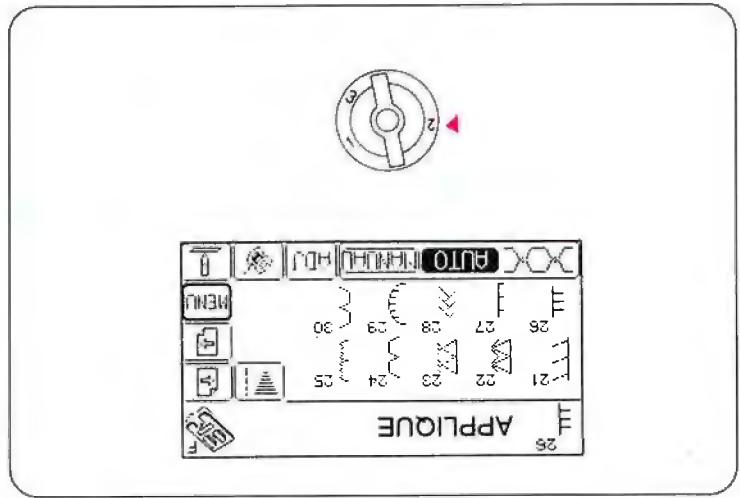
Select stitch 129.

Small eyelets may be sewn on belts, used for lacings cords or simply used for a decorative effect.

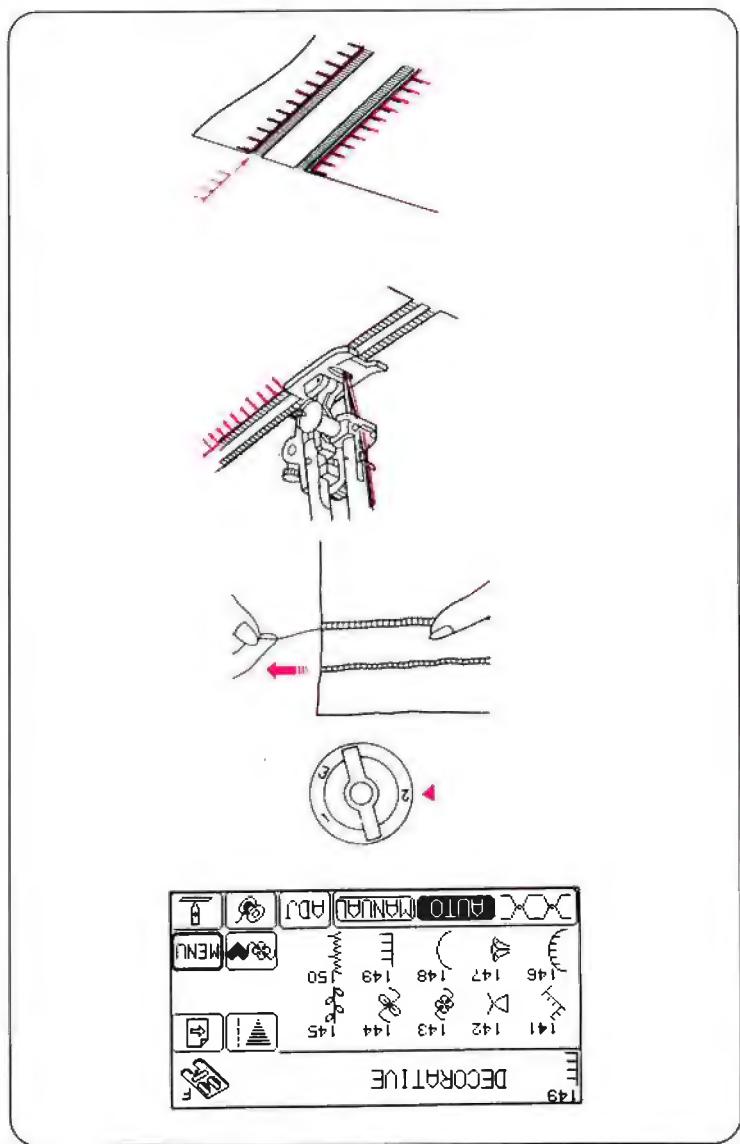
### Eyelets



- **Drawn Work**
- Drawn work and fringing add a special touch on table linens and shawls. Choose a firm, woven fabric like linen where threads can be removed easily.
- Set foot pressure dial to 2.
- Select stitch E 149.
- Carefully cut the fabric on grain. Determine the width of the drawn work and remove one yarn or fabric thread at each end.
- Sew down the right side, guiding the fabric so the left hand stiches fall in the open space.
- After finishing the left side, turn the fabric around 180 degrees. Then sew down the other side.
- Remove the yarns or fabric threads between the stitching.
- Fringing**
- Fringing uses the same method as drawn work. Carefully cut the fabric on grain. Remove a single thread from the left side so the fringing is to begin. Sew down the left side so the fringes fall in the open space. Remove all excess yarn to create fringe.
- Reset foot pressure dial to 3 after sewing.
- Stitches 26 or 27 may also be used.



- **Drawn Work**
- Drawn work and fringing add a special touch on table linens and shawls. Choose a firm, woven fabric like linen where threads can be removed easily.
- Set foot pressure dial to 2.
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- Reset foot pressure dial to 3 after sewing.
- Stitches 26 or 27 may also be used.



SECTION V

Built in Letters and Numbers Mode

Press the **MENU** key to access the mode selection keys.

Press the **Aj<sub>10~9</sub>** key.

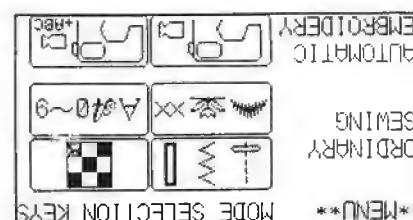
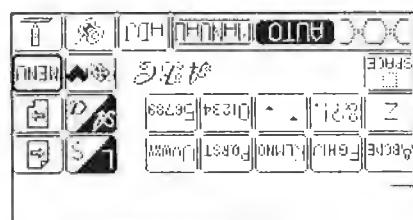
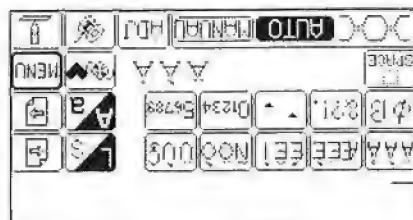
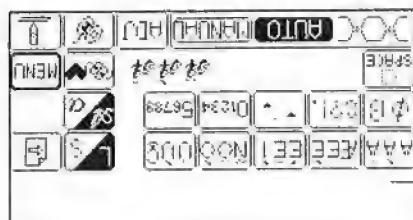
Press the  or  key to change the computer display screen between the four different displays.

## ① Letters and Numbers Block Style

Letters and Numbers Script Style

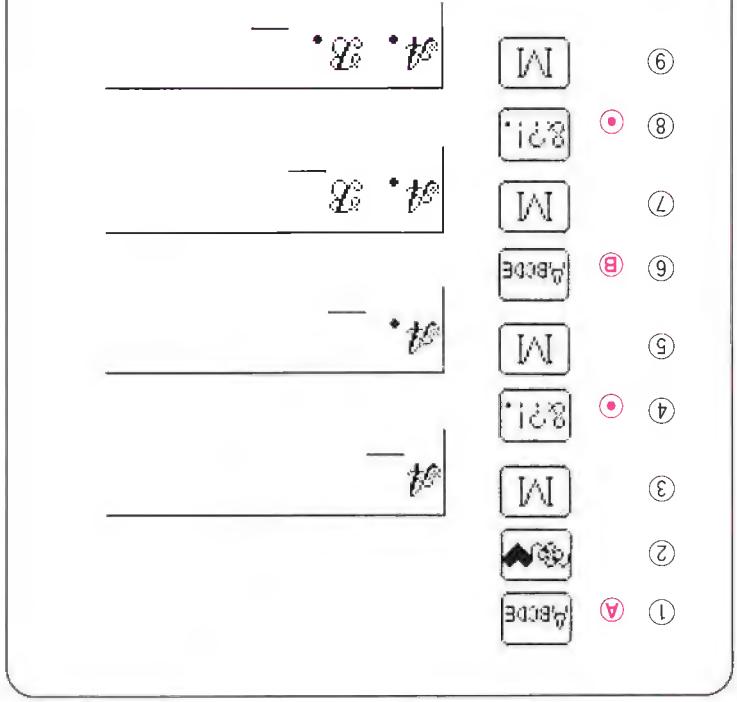
③ Diacritical Letters Block Style

## ④ Diacritical Letters Script Style



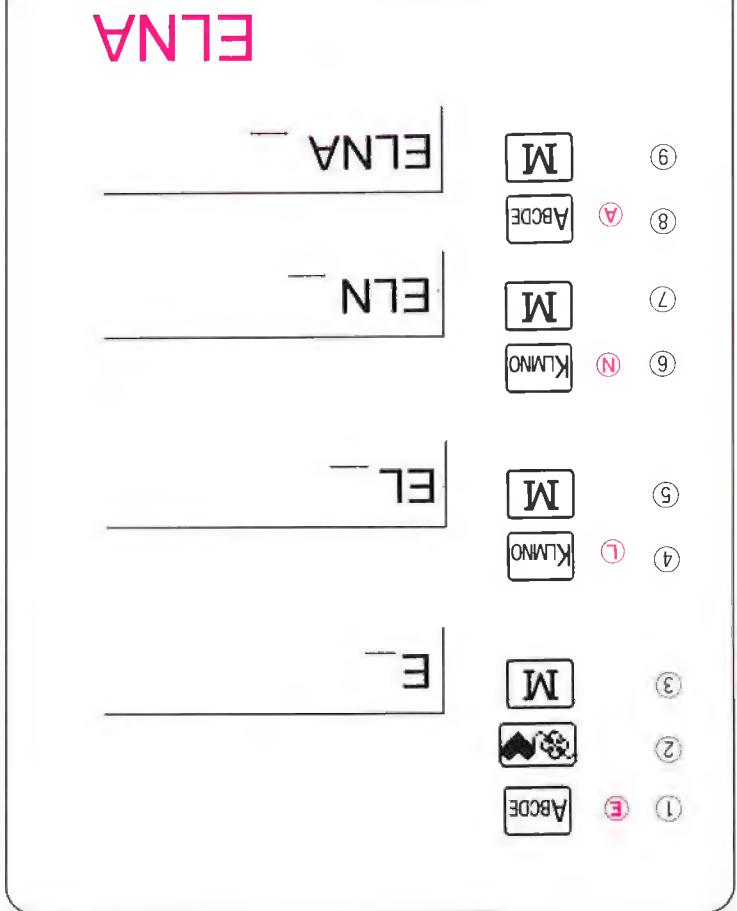
**Example: Script Style "A.G."**

- Press **ABCDE** key until "A" is displayed in the screen upper left corner.
- Press **↖** key.
- Press **M** key to memorize the letter "A". The cursor moves to next position after "A".
- Press **↖** key until "G" is displayed.
- Press **M** key.
- Press **ABCDE** key until "G" is displayed.
- Press **M** key.
- Press **↖** key until "G" is displayed.
- Sew "A.G.". Cut connecting threads.



**Example: Block Style "ELNA"**

- Press the **ABCDE** key until "E" is displayed in the screen upper left corner.
- Press **↖** key.
- Press **M** key to memorize the letter "E". The cursor moves to next position after "E".
- Press **KLMNO** key until "L" is displayed.
- Press **M** key.
- Press **KLMNO** key until "N" is displayed.
- Press **M** key.
- Press **ABCDE** key until "A" is displayed.
- Press **M** key.
- If you accidentally memorize the wrong character, press the **C** key.
- Sew "ELNA". Cut connecting threads.



## Programming Letters and Numbers

# Who

Example: Block Style, Upper/Lowercase "Who"

- Press **UWXY** key until "W" is displayed in the screen upper left corner.
- Press **W** key.
- Press **M** key to memorize "W".
- Press **FHGU** key until "H" is displayed.
- Press **A** key to change display for lowercase.
- Press **M** key to memorize "h".
- Press **KLMNO** key until "o" is displayed.
- Press **M** key to memorize "o".

Sew "Who".

⑧	<b>M</b>
⑦	<b>KLMNO</b>
⑥	<b>M</b>
⑤	<b>A</b>
④	<b>FHGU</b>
③	<b>M</b>
②	<b>W</b>
①	<b>UWXY</b>

Example: Block Style, Upper/Lowercase "Who"

# tres

Example: Block Style/Lowercase "tres"

- Press **PORST** key until "T" is displayed in the screen upper left corner.
- Press **A** key to change display for lowercase.
- Press **W** key.
- Press **M** key to memorize "t".
- Press **PORST** key until "r" is displayed.
- Press **M** key.
- Press **F** key twice.
- Press **EEE** key until "e" is displayed.
- Press **F** key twice.
- Press **PORST** key until "s" is displayed.
- Press **M** key.
- Press **TRES** key.

Sew "tres".

⑫	<b>M</b>
⑪	<b>PORST</b>
⑩	<b>x2</b>
⑨	<b>M</b>
⑧	<b>EEE</b>
⑦	<b>x2</b>
⑥	<b>M</b>
⑤	<b>PORST</b>
④	<b>M</b>
③	<b>A</b>
②	<b>A</b>
①	<b>PORST</b>

Example: Block Style/Lowercase "tres"

**Example: Letters and Space "P, S."**

The amount of space may be adjusted:

1. Press  **key until "P"** is displayed in the screen upper left corner.
2. Press  **key**.
3. Press  **key to memorize "P"**.
4. Press  **key until "•" is displayed.**
5. Press  **key to memorize "•".**
6. Press  **key to create space between left**
- Press  **key to memorize "P"**.
- Press  **key to memorize "•".**
- Press  **key until "S" is displayed.**
- Press  **key to memorize "S".**
- Press  **key until "•" is displayed.**
- Press  **key to memorize "•".**

**Example: Block Style/Reduce Size "Who"**

1. Press **W** key until "W" is displayed in the screen upper left corner.

- 3. Press **M** key to memorize "W".
- 4. Press **F4(H)** key until "H" is displayed.
- 5. Press **A** key to change display for lowercase.

Sew "Who".

о ч м

1. Press Port key until "P" is displayed in the screen upper left corner.

2. Press key.

3. Press M key to memorize "P".

4. Press &?!. Key until "P" is displayed.

5. Press M key to memorize "P".

6. Press SPACE key to create space between words.

The amount of space may be adjusted:

Press 1 time (5 mm)

Press 2 times (4 mm)

Press 3 times (3 mm)

Press 4 times (2 mm)

7. Press M key to memorize " " .

8. Press Port key until "S" is displayed.

9. Press M key to memorize "S".

10. Press &?!. Key until "•" is displayed.

11. Press M key to memorize "•".

1. Press **W** key until "W" is displayed in the screen upper left corner.

1. Prior to programming, delete the previously programmed stiches by pressing the clear key. For a long program, it is advisable to write down the programming procedure in order to avoid an error.
2. Up to 50 stiches or letters/numbers can be programmed in the various memories. Note, however, that the straight, buttonhole and other utility stiches cannot be memorized.
3. If you find that a wrong stitch is selected and memorized in the middle of programming, press the clear key. That stitch alone will be cleared.
4. After sewing a lowercase "g" or ";" (period), insert a space for best results.
5. If a program has not been stored, it will be erased...
  - if you have been sewing a programmed stitch, stop the machine and then press any stitch key or menu key.
  - when the power switch is turned off,
6. If an incorrect operation is performed in programming, an electronic alarm will sound to signal an error.

### Programming Notes

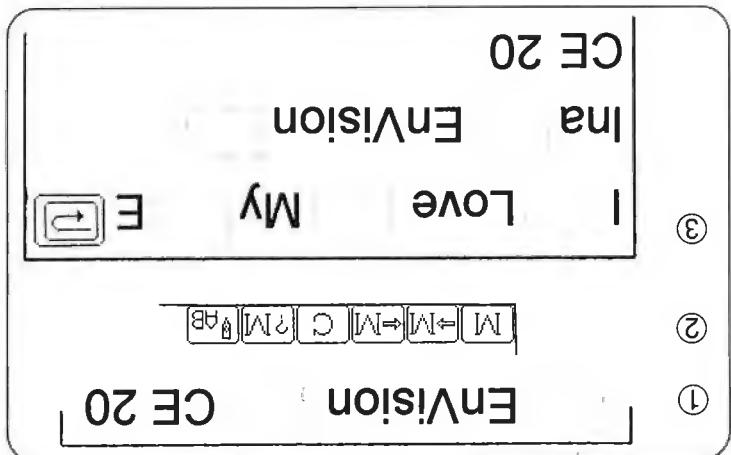
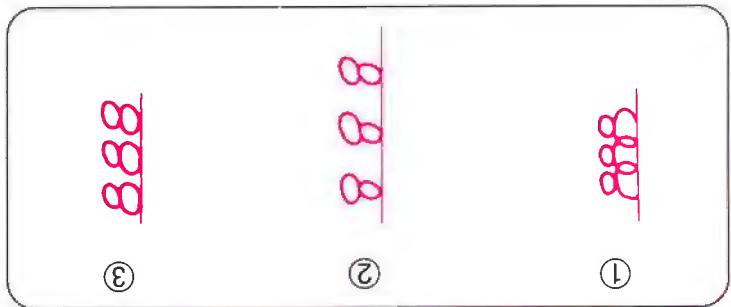
③ Fine tuning correct.

② When letters or numbers are drawn out, turn the fine tuning dial towards the "-" sign.

① When letters or numbers overlap, turn fine tuning dial towards the "+" sign.

If letters or numbers are uneven and distorted, adjust them with the fine tuning dial. See page 5.

**Fine Tuning Adjustment**



① Memorize the words "I Love My Envision CE 20".

② Press **[M]** key. (All memorized words will appear)

③ Press **[→]** key.

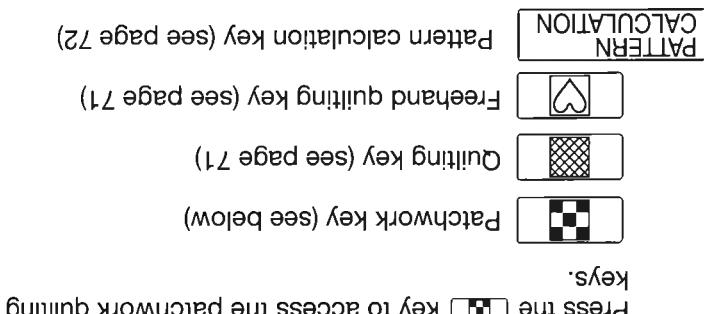
**How to Check Memorized Stitches**

## Patchwork/Guitting Mode

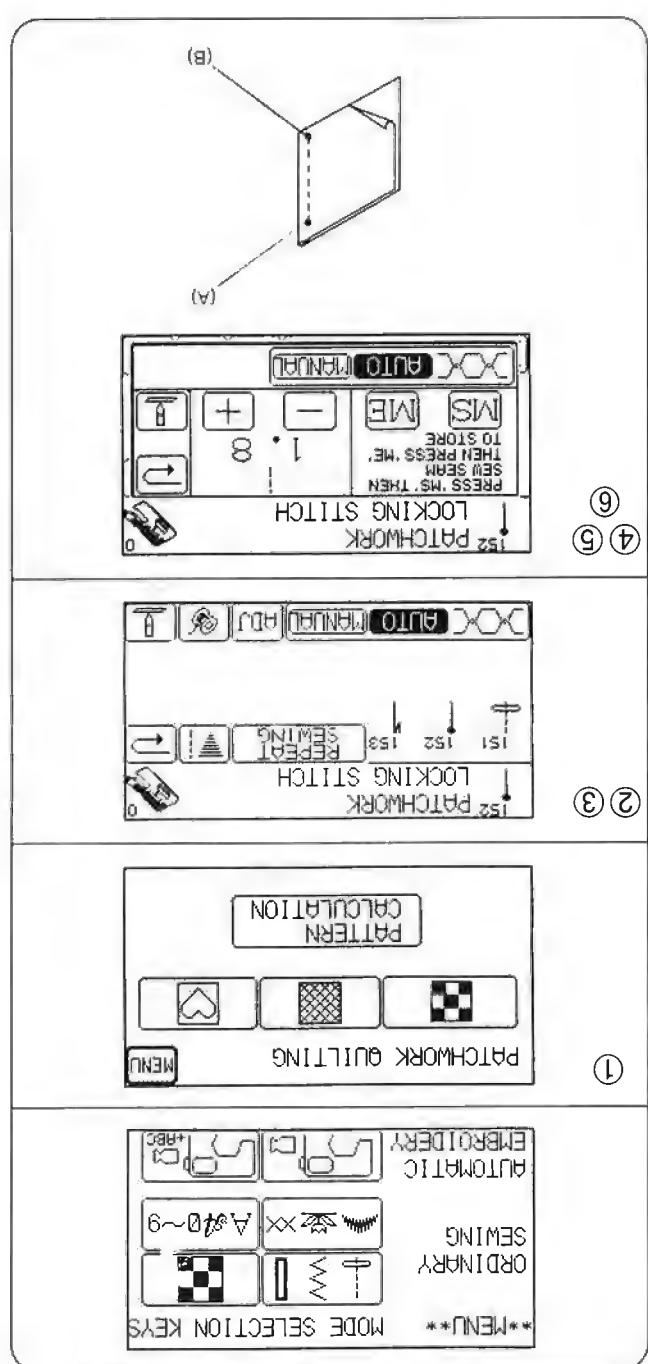
Stitches frequently used for patchwork/guitting have been grouped together for your convenience. The machine has also been programmed to automatically perform special time-saving functions.

Press the  key to access the mode selection keys.

Press the  key to access the mode selection keys.



- ① Press  key.
- ② Select stitch  or .
- ③ Press  key. (This key is beneficial when the same length of stitches is required while piecing fabric.)
- ④ Press the memory start  key.
- ⑤ Start sewing at (A) (see illustration) and press the reverse key at (B).
- ⑥ Press the memory end  key after the machine stops automatically.
- \* To memorize a new length seam, press  again and start sewing. The previously memorized seam length will be erased.
- \* Return to the patchwork quilting keys.



Fabric	Broadcloth	Satin	Sheeting	Wool	Velveteen
Pressure Dial	3	3	—		
Thread	#60	#60 to #90	#60 to #90		
Needle Thread	#60	Transparent	Transparent		
Size	#11	#11	#11		

Recommended Fabric, Quilting and Freehand Quilting Pressure, Needle, Thread and Pressure for Patchwork, Quilting and Freehand Quilting

## SECTION VI

the patchwork quilting keys.  
Press the → key after sewing to return to the patchwork quilting keys.

⑥ Tie together beginning and ending threads.  
⑦ Guide the fabric by hand and begin sewing.

④ Lower presser foot, press up/down needle key to bring bobbin thread to fabric top.  
⑤ Draw design on fabric with washable fabric marker.

③ Attach the drawing foot P2. See page 36.  
② Attach the freehand quilting key.

① Press the heart key. Feed dog lowers automatically when the key is pressed.  
(Carriage moves; make sure nothing obstructs it.)



the patchwork quilting keys.  
Press the → key after sewing to return to the patchwork quilting keys.

④ Sew.

③ Select stitch 154, 155, 156, 157, or 158.

② Attach the walking foot. See page 32.



The stitches available for quilting may be used for outline quilting or stitch in the ditch quilting.



The following size calculation appears on the screen, use the fraction indicated:

1/32"-5/32"	use 1/8"
18/32"-21/32"	use 5/8"
22/32"-25/32"	use 3/4"
6/32"-9/32"	use 1/4"
10/32"-13/32"	use 3/8"
26/32"-29/32"	use 7/8"
14/32"-17/32"	use 1/2"
30/32"-32/32"	use 1"

When the following size calculation appears on the screen, use the fraction indicated:

### Patchwork Conversion Chart

Use same method as centimeter indication.  
See page 27 on how to change measurement indication between centimeters and inches.

Example: **PATCH NINE** /Inch indication

⑥ Press the **→** key after confirming.

indicated.

\* The recommended colors are also

are indicated.

⑤ The size (seam allowance of 0.7 cm included) and required number of pieces

④ Press the **OK** key.

**+** key.

③ Press the **ROWS** key and select the **—** or **+** key.

Baby Blocks ..... 9 cm to 100 cm

Log Cabin ..... 11 cm to 100 cm

Grandma Garden ..... 8 cm to 100 cm

Mosaic, Lemon Star, ..... 5 cm to 100 cm

Nine Patch ..... 5 cm to 100 cm

or **+** key.

② Set the size of work by pressing the **—**

① Press **NINE PATCH** key.

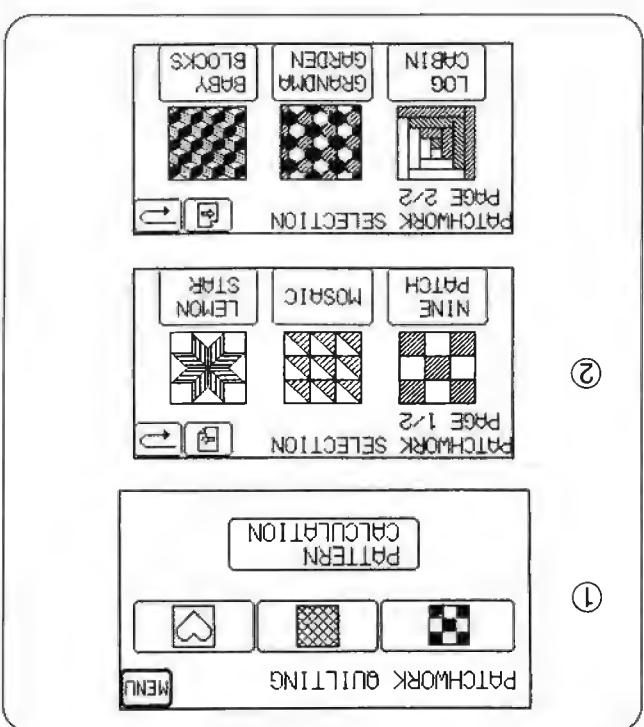
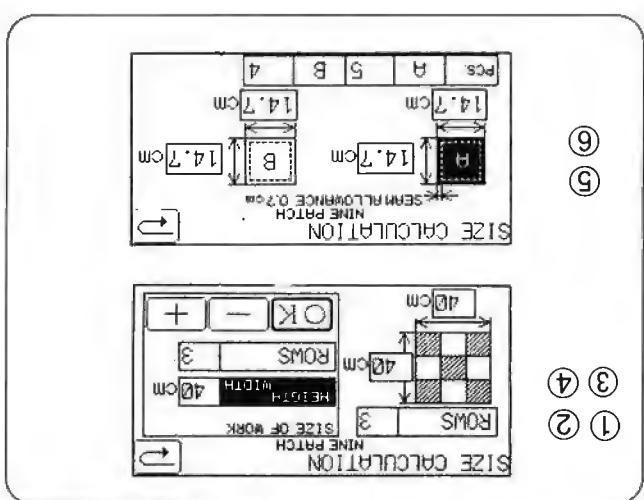
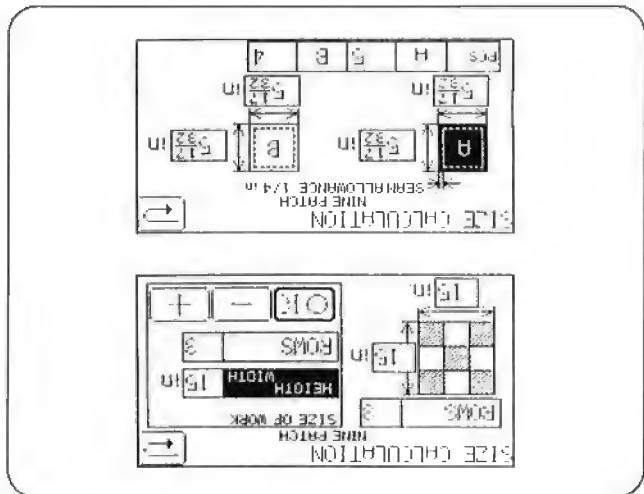
Indication

Example: **PATCH NINE** Key/Centimeter

### How to Calculate Fabric

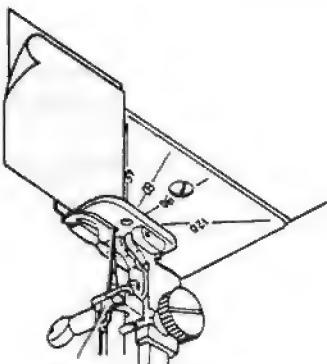
The size and number of each piece of fabric can be calculated automatically. (There are six different designs).  
Press the **CALCULATION** or **PATCHWORK** key to alternate between screens.

**PATCHWORK CALCULATION Key**



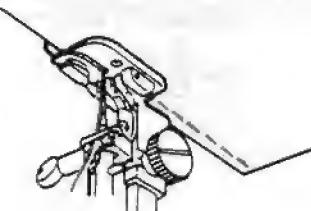
You can sew without marking by matching the edge of fabric to the angle scale on the needle plate at the beginning.

### Angle Scale on Needle Plate

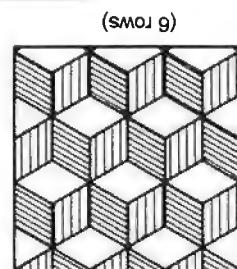
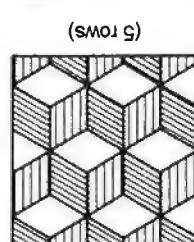


- \* A seam allowance of 0.7 cm (1/4") is created by guiding the edge of fabric along the guide.
- \* Sew, guiding the edge of fabric along the guide of foot.

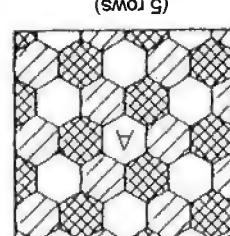
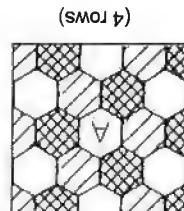
### How to Use Patchwork Foot O



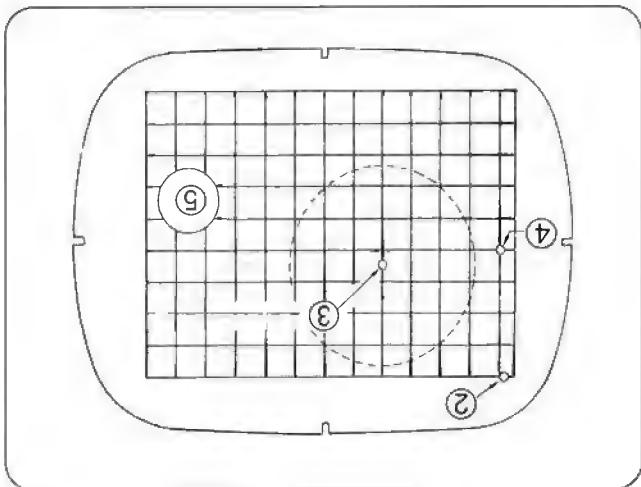
**Example: Baby Blocks**  
Count from left to right, centering one block:



**Example: Grandma Garden**  
Count from left to right, centering:



### How to Count Rows

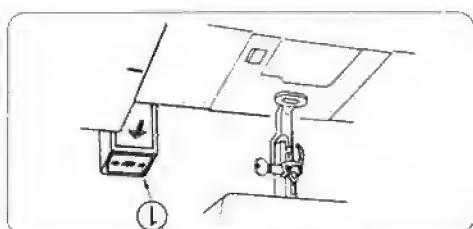


- **Template**  
The illustration shows various starting points.
- ② Starting point for Envision Card Nbrs. 2, 3, etc.
- ③ Starting point for Envision Card Series 100
- ④ Starting point for monogramming
- ⑤ Remove Template hole

WEIGHT OF FABRIC	TYPE OF THREAD	NEEDLE SIZE	NEEDLE	TYPE OF THREAD	NEEDLE	WEIGHT
Light,	Size 40 or 50 Cotton machine Universal Embroidery thread, Bal Point	11 (75)	Universal Stretch Needle	Size 30 or 40 Cotton machine Universal Embroidery thread,	14 (90)	Heavy
Medium	Size 40 or 50 Cotton machine Universal Embroidery thread, Bal Point			Cotton machine Universal Rayon thread		
				Rayon thread		

#### Selecting Needle and Thread

**NOTE:** The foot control cannot be used in embroidery mode. Use the start/stop key.



① Carriage

Do not turn the flywheel by hand while carriage is moving.

When monogram or embroidery is completed, before turning off your machine, press the  **MENU**  key to return carriage to its non-active position.

Before turning on your machine, clear your table surface of anything that might obstruct the carriage movement. If your machine is in a cabinet, check that the machine is even or above the cabinet surface. (The carriage could possibly hit the cabinet and disturb the sewing result.)

#### Getting Ready to Monogram and Embroider

- **Stabilizing Fabric**  
Stabilizers for embroidery work are available in two types: press-on or sew-in.  
Use stabilizer on fabric wrong side. (More than one layer may be required.)  
The sew-in type should be used when embroidering fabric which cannot be ironed or sections which are difficult to iron.
- For both types of stabilizers, prepare a piece larger than the embroidery hoop and place it in the hoop so the entire piece can be fastened within the hoop.
- Choosing Stabilizers:**  
Press-on: For stretch fabric such as knits, lightweight and shrinkable fabric.  
Sew-in: For sturdy fabrics and fabrics which cannot be ironed.

**NOTE:** Ironing temperature varies with the kind of stabilizer and fabric.

**NOTE:** Ironing temperature varies with the kind of fabric.

(Fabric should be taut.)

For both types of stabilizers, prepare a piece larger than the embroidery hoop and place it in the hoop so the entire piece can be fastened within the hoop.

The sew-in type should be used when embroidering fabric which cannot be ironed or sections which are difficult to iron.

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Use stabilizer on fabric wrong side. (More than one layer may be required.)

Stabilizers for embroidery work are available in two types: press-on or sew-in.

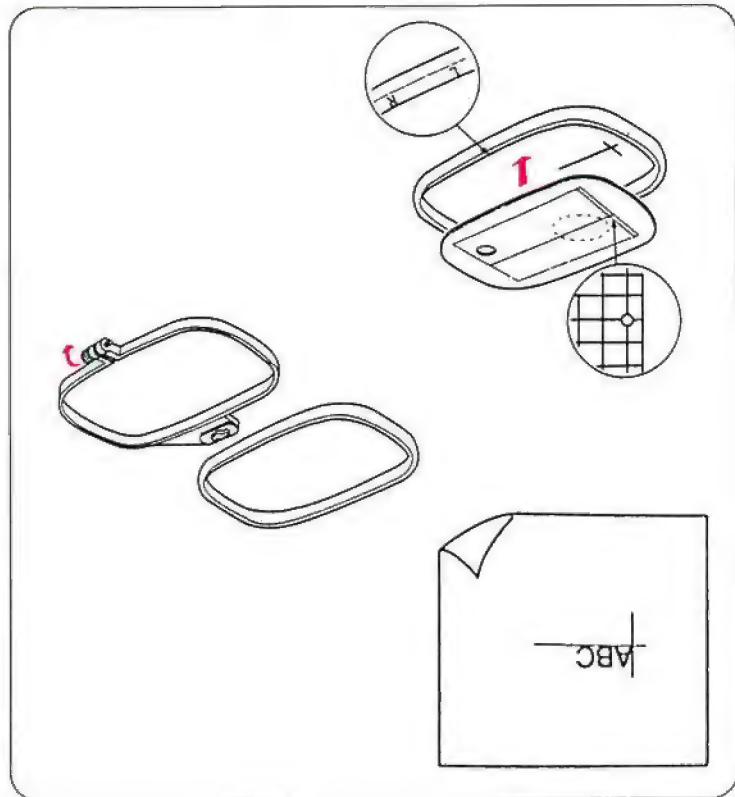
**NOTE:** The L and R markings on the hoop should be visible and at the bottom when setting in the template.

3. Set the template inside the inner hoop.

2. Loosen the screw on the outer hoop and remove inner hoop.

1. Use a washable fabric marker to mark reference lines for embroidery position.

### Securing Fabric in Embroidery Hoop



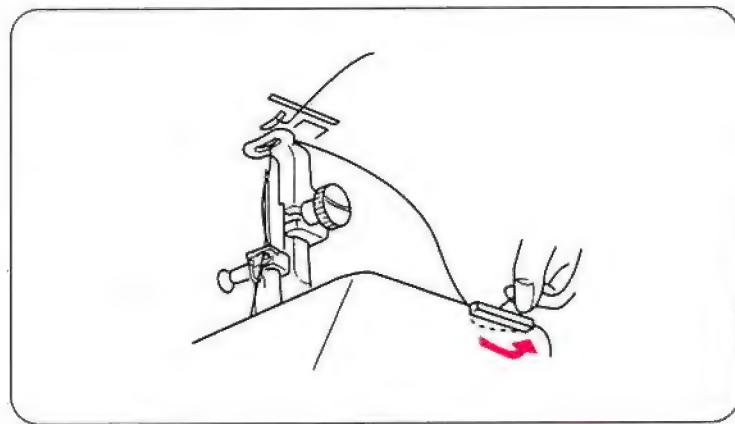
Set foot pressure dial to 2. See page 6.

### Foot Pressure Dial

Attach the extension table. See page 5.

### Extension Table

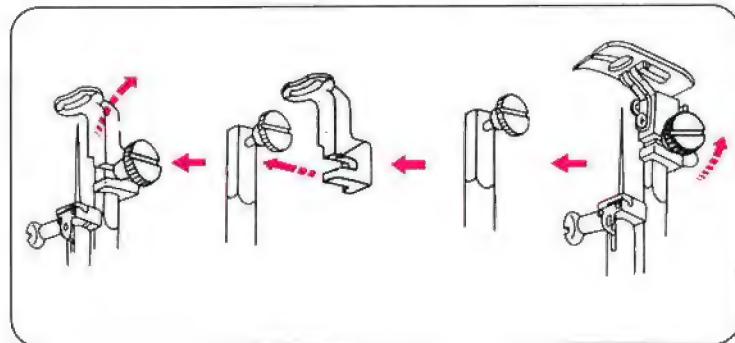
Thread the machine as described for ordinary sewing. Thread the machine as described for ordinary sewing. (See pages 16-19.) The needle thread is passed through the P foot hole and up to the front of the thread cutter, which acts as the thread holder. Leave 2 to 3 cm (1") thread tail dangling.



### Machine Threading

Raise the presser foot. Loosen screw and remove shank. Position "P" foot and tighten screw.

### Attach the "P" embroidery foot

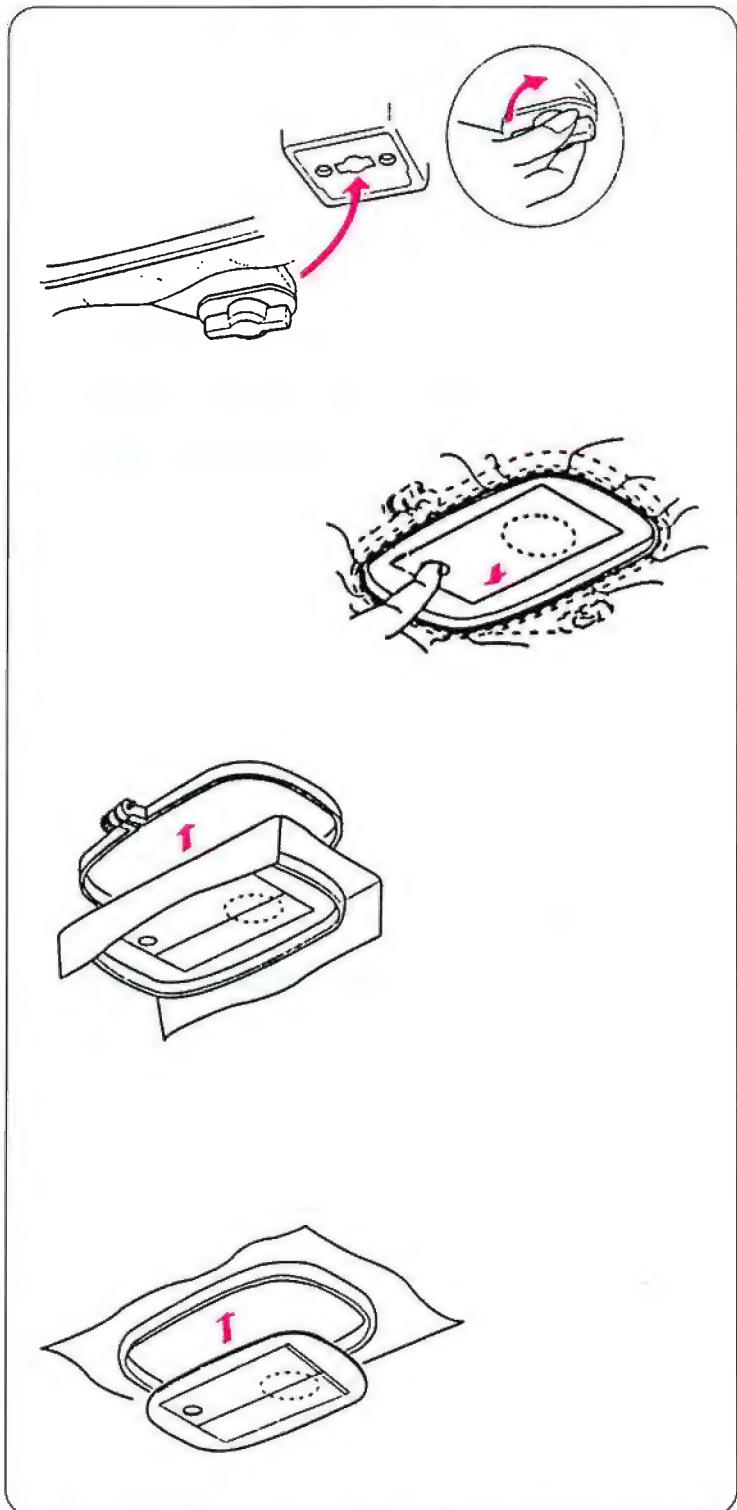


4. Place the inner hoop/template on top of fabric and stabilizer. Match the fabric reference lines with the template. Complete this step on a flat surface for accuracy.

5. Carefully lift inner hoop/template and fabric/stabilizer and set them into the outer hoop. Tighten screw on outer hoop. Check reference lines with template and adjust accordingly. Fabric should be held taut inside the hoop. Always pull fabric taut respecting the fabric grain (vertical and horizontal).

6. Remove template.

7. The hoop turnkey should be parallel to the hoop. Position hoop on machine and place the prong into the carriage. Lock the hoop into position by moving the turnkey clockwise.



## SECTION VIII

### Normal Embroidery Mode

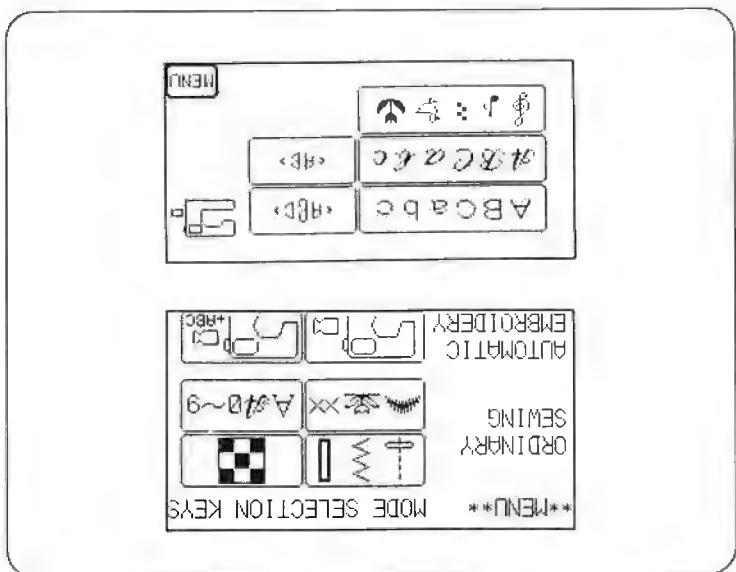
Turn off machine and insert EnVision Card 101.

**EnVision Card 101**

Turn on machine.

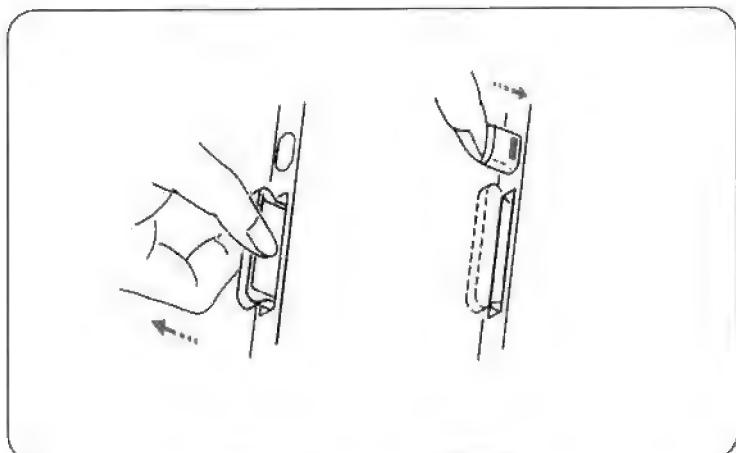
Press the  key. The carriage will move and the feed dog will be lowered automatically.

Letter styles and border designs programmed on card 101 will appear.



Turn off the machine. Press the card eject button. The EnVision Card comes out halfway and may be safely removed.

### Eject EnVision Card



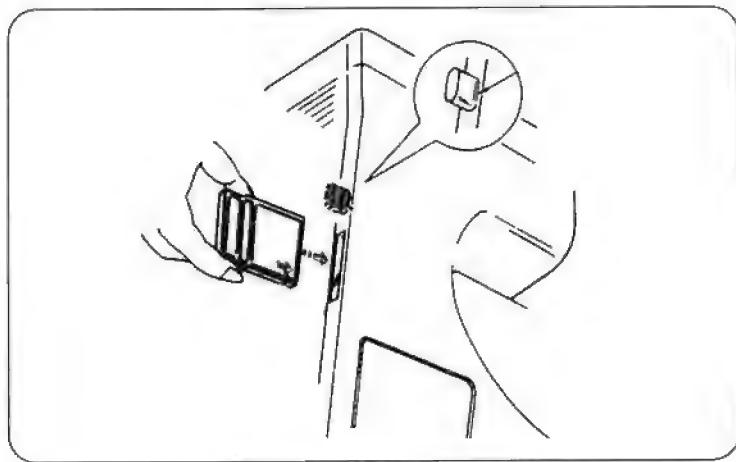
③ Turn on the machine. The menu screen appears for a few seconds. The display changes and the machine is set for straight stitch.

If the EnVision card is inserted correctly, the eject button will not stick out. Pushed in far enough, the eject button will not stick out.

② Push the card straight in until it clicks and the eject button pops out. (See illustration.)

① Turn off the machine. Insert the card making sure the arrow on the label is facing you.

### Insert EnVision Card



**Selection Keys**

There are five selection keys that contain ten different display screens that contain ten different selection keys according to the type of embroidery desired.

- \* Once the type of embroidery has been selected, use the or key to change the display.
- \* Press the key to return to the selection key screen.

1 display screen  
Border Designs key

2 display screens  
Two Letter Monogram key

3 display screens  
Three Letter Monogram key

2 display screens  
AlphaBeta - Script Style key

2 display screens  
AlphaBeta - Block Style key

1 display screen  
Border Designs key

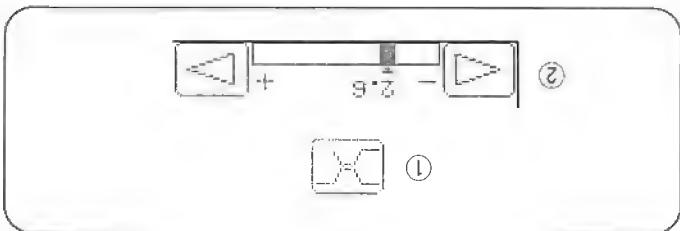
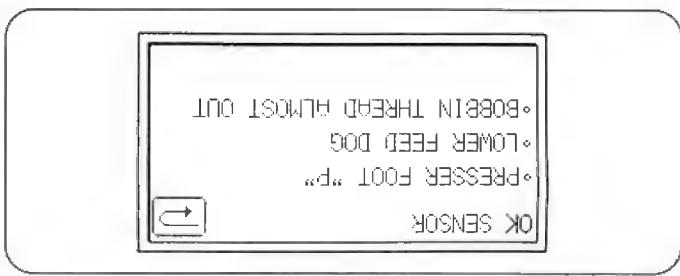
If the OK sensor appears on the screen after sewing starts, check the items listed, then press the key and continue sewing.

OK Sensor

① Press the thread tension key.  
② Decrease by pressing the key.

If the bobbin thread appears on the upper surface of the fabric:

## Thread Tension Adjustment



See page 56.

Recall key

See page 5

W ←

See page 56.

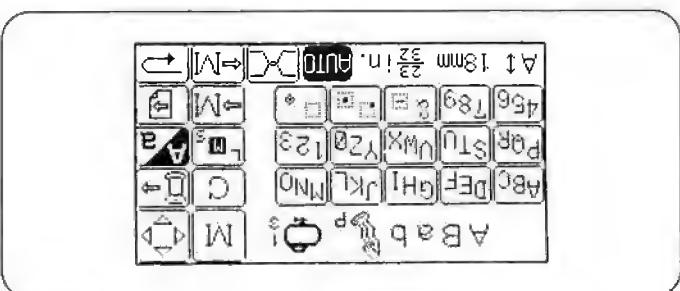
**Sewing Position Key** When sewing letters/numbers, there may be a need to sew a second row. Press the sewing and frame position key to align the word/ing.

**Color Change Key** Press the color change key and the key will darken to indicate that color select mode is on. The machine will automatically stop after sewing each letter or design section, allowing you to switch needle thread color.

**Upper/Lowercase Key** or  Press the upper/lowercase key to alternate between uppercase and lowercase letters.

See below  
**Thread Tension Adjustment Key**

- \* HOW TO SELECT A DESIGN
- \* Press the **A B C a b c** key.
- \* The  means that embroidery foot P should be used.
- \* The number next to the  symbol indicates which number embroidery frame may be used.
- \* (Embroidery hoop No. 3 is optional.)



1. Press **DEF** key until "E" is displayed in the screen upper left corner.

2. Press **M** key to memorize the "E".

3. Press **JKL** key until "L" is displayed.

4. Press **M** key.

5. Press **MNO** key until "N" is displayed.

6. Press **M** key.

7. Press **ABC** key until "A" is displayed.

8. Press **M** key.

If you accidentally memorize the wrong character, press the **C** key.

9. Lower presser foot. Start by pressing **START/stop** key. Sew 5 or 6 stitches and stop by pressing **start/STOP** key.

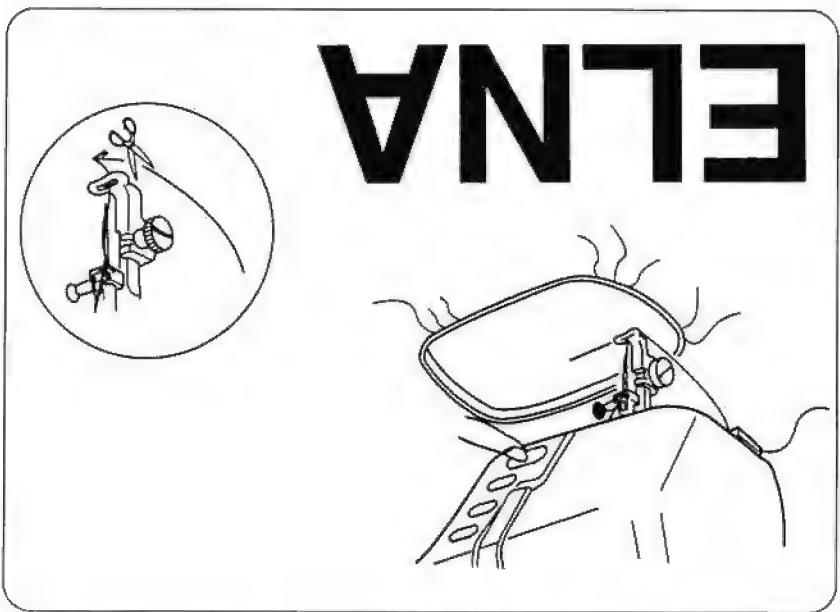
Raise presser foot. Cut needle thread tail close to fabric.

Lower presser foot.

Press start/stop key.

When sewing is started, the word "ELNA" shifts on the computer display screen. When sewing is completed, the original sound is emitted to signal same time, an electronic sound is emitted to signal completion of sewing.

Cut the connecting threads.



**Example: Block Style "ELNA"**

Programming Letters and Numbers

1. Press **DEF** key until "E" is displayed in the screen upper left corner.

2. Press **M** key to memorize the "E".

3. Press **JKL** key until "L" is displayed.

4. Press **M** key.

5. Press **MNO** key until "N" is displayed.

6. Press **M** key.

7. Press **ABC** key until "A" is displayed.

8. Press **M** key.

If you accidentally memorize the wrong character, press the **C** key.

9. Lower presser foot. Start by pressing **START/stop** key. Sew 5 or 6 stitches and stop by pressing **start/STOP** key.

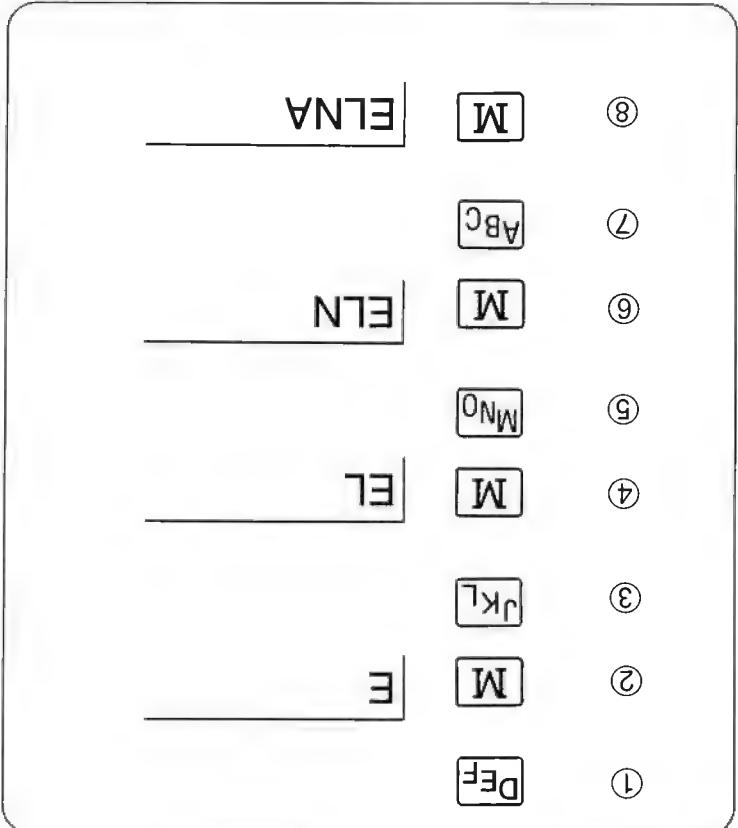
Raise presser foot. Cut needle thread tail close to fabric.

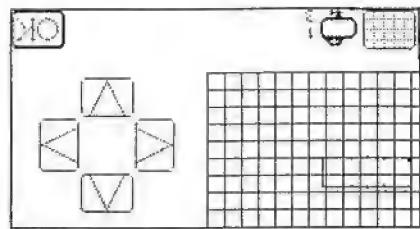
Lower presser foot.

Press start/stop key.

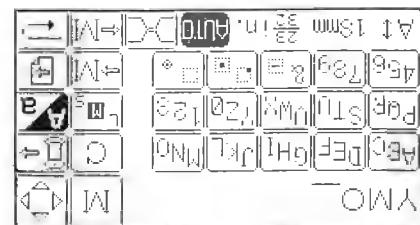
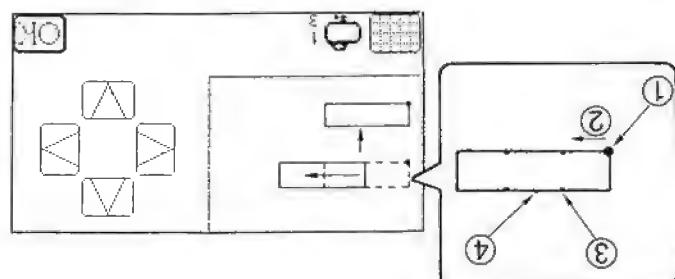
When sewing is started, the word "ELNA" shifts on the computer display screen. When sewing is completed, the original sound is emitted to signal same time, an electronic sound is emitted to signal completion of sewing.

Cut the connecting threads.





\*



**Example: How to Sew a Second Row of Letters or Numbers/ Sewing Position Key**

1. Press key.
2. Move the embroidery hoop to the desired starting position by pressing the direction .
3. Press the **START/stop** key to start sewing.
4. Press the **OK** key after setting position.
5. Press the **grid** key to alternate between display, template or no template.

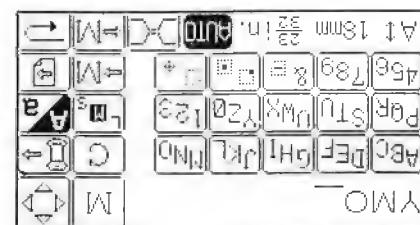
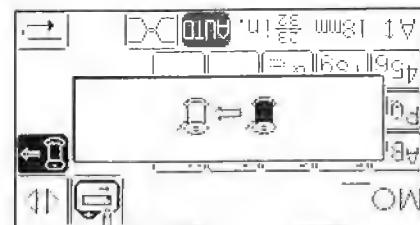
The original letter position and range are displayed.

The original letter position and range are displayed.

④ Center mark of the 3 memorized letters  
 ③ Range for 1 letter  
 ② Sewing direction  
 ① Starting point

**Example: Block Style "YMO"/ Color Change Key**

1. Program the letters "YMO".
2. Press key.
3. Press **START/stop** key.
4. The machine automatically stops after each letter is sewn so you may change thread color.



**tres**

1. Press **A** key.  
 2. Press **STU** until "t" is displayed.  
 3. Press **M** key.  
 4. Press **PQR** key until "r" is displayed.  
 5. Press **M** key.  
 6. Press **EII** key.  
 7. Press **EII** key for "e" display.  
 8. Press **M** key.  
 9. Press **EII** key.  
 10. Press **STU** key for "s" display.  
 11. Press **M** key.  
 12. Sew sample.

\* Press **→** key.

**YMO**

1. Press **LMS** key.  
 2. Program the letters "YMO".  
 3. Sew sample.

**YMO**

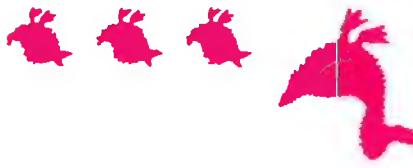
1. Press **LMS** key.

**YMO**

Example: Block Style "YMO"/ **LMS**

Example: Diacritical/Block Style/Lowercase "tres"

**Example: Border Designs**



⑧

1. Press  key.
2. Press  key for  display.
3. Press  key.
4. Press  key until  is displayed.
5. Press  key.
6. Press  key.
7. Press  key.
8. Sew sample.

Press  key.

M

⑦

⑥

⑤

④

③

②

①

**Example: Script Style "a, g."**



⑩

1. Press  key.
2. Press  key for "a" display.
3. Press  key.
4. Press  key for "•" display.
5. Press  key.
6. Press  key until "g" is displayed.
7. Press  key.
8. Press  key for "•" display.
9. Press  key.
10. Sew sample.

Press  key.

M

⑨

⑧

⑦

⑥

⑤

④

③

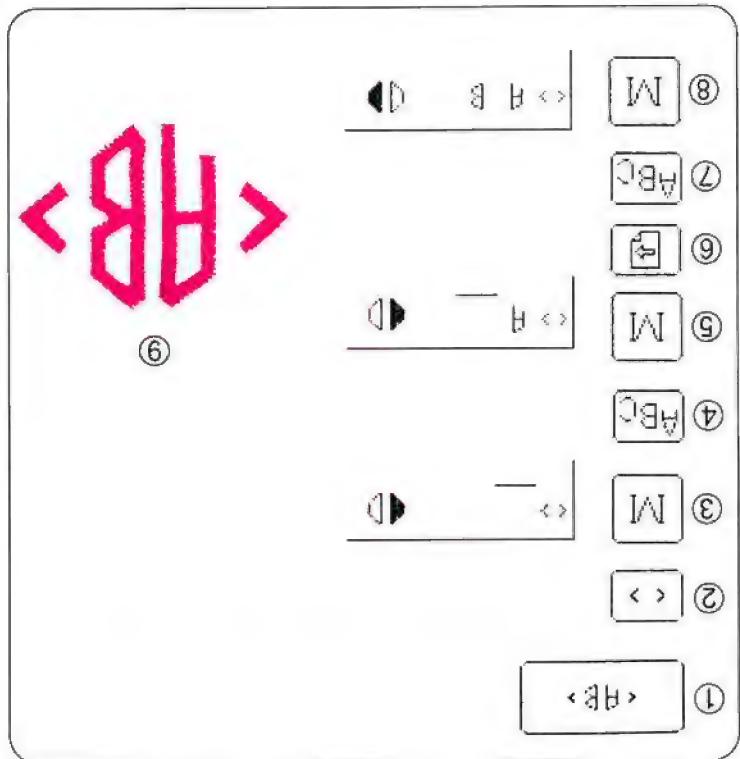
②

①

\* Always program borders before letters for two or three letter monograms.

1. Press **ABC** key.
2. Press **<** key for border.
3. Press **M** key.
4. Press **ABC** key for "A" display.
5. Press **M** key.
6. Press **ABC** key.
7. Press **ABC** key until "B" is displayed.
8. Press **M** key.
9. Sew sample.
10. Press **ABC** key until "B" is displayed.
11. Press **M** key.
12. Press **ABC** key.

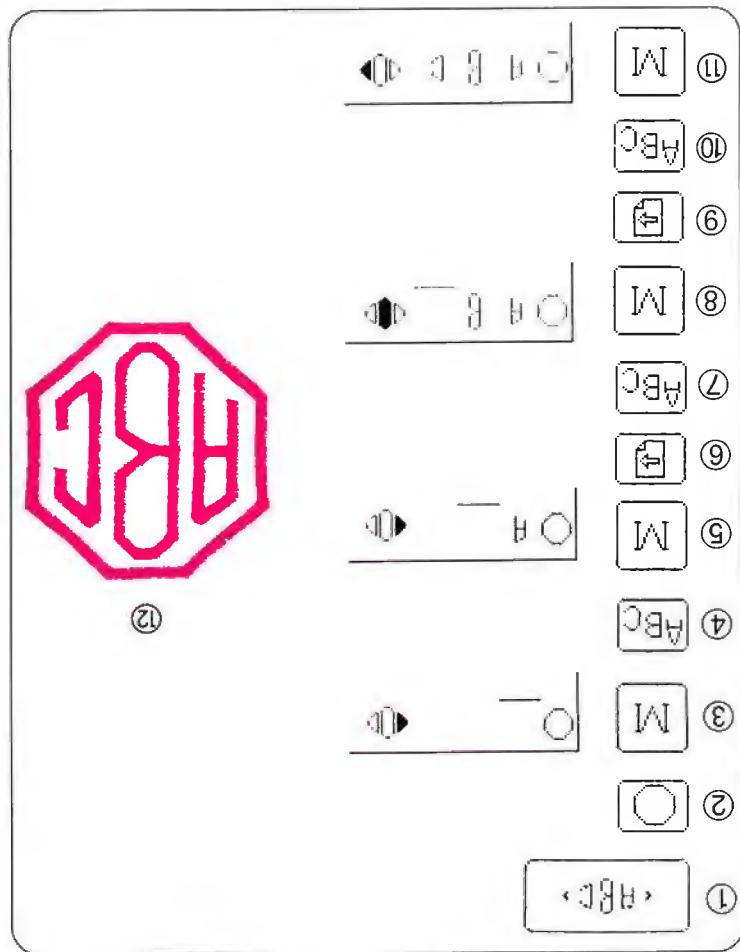
**Example: Two Letter Monogram Inside Border**



\* The **<** mark indicates which letter (left, center, right) will be memorized.

1. Press **ABC** key.
2. Press **<** key for border.
3. Press **M** key.
4. Press **ABC** key for "A" display.
5. Press **M** key.
6. Press **ABC** key.
7. Press **ABC** key until "B" is displayed.
8. Press **M** key.
9. Press **ABC** key.
10. Press **ABC** key until "C" is displayed.
11. Press **M** key.
12. Sew sample.

**Example: Three Letter Monogram Inside Border**



1. How to Select and Sew a Design

Select design  by pressing the screen.
2. Display screen will indicate the suggested thread color for each section of the design. Thread machine with color appropriate for first section.
3. The  means that embroidery foot P should be used.
4.  <sup>1, 2</sup> Display indicates appropriate embroidery hoop to use.

#### **How to Select and Sew a Design**

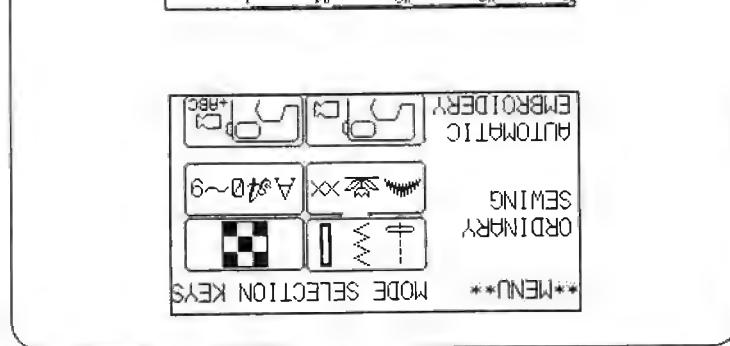
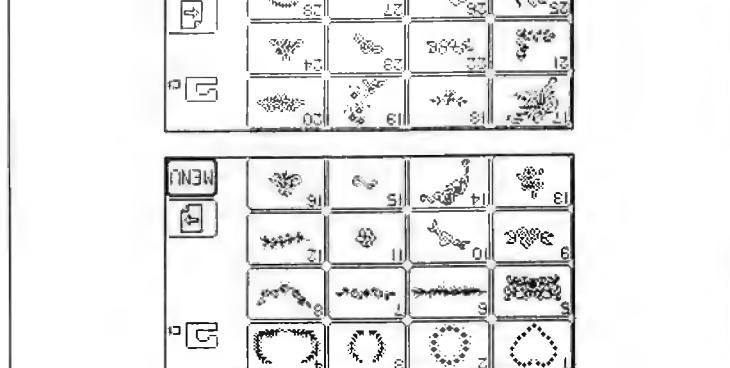
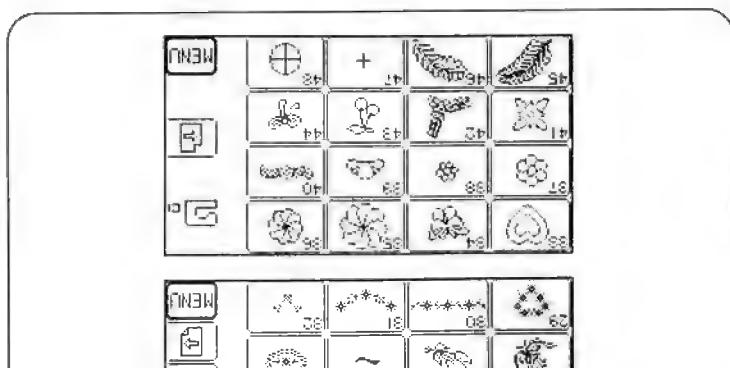
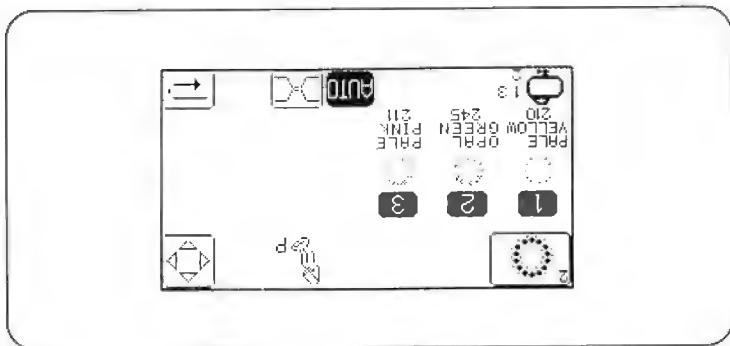
Designs programmed on card 102 will appear  
between the 3 display screens by pressing  
the  key.

Designs programmed on card 102 will appear.

A diagram showing a hand with fingers pressing a key on a keyboard. The key has a small icon of a person sitting at a desk.

Turn off machine and insert Envision Card 102.

Envision Card 102



**NOTE:** Some sewers prefer their embroidery be very compact. Elina does not suggest sewing the design twice, but instead using a heavier thread weight. Sewing the design twice may result in skipped stitches.

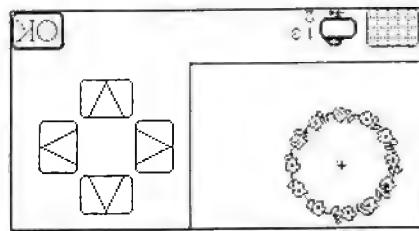
- \* Cut all connecting threads.
- 9. Change thread color. Sew step 3.



8. Change thread color. Sew step 2 using same method.



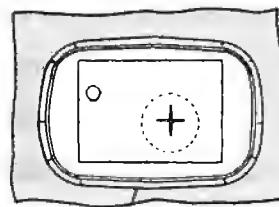
7. Press the **START/STOP** key. Sew 5 or 6 stitches and stop by pressing **start/STOP** key.



6. If the initial needle position is not directly over the starting point marked on your fabric, press the key. Use the arrow keys to move the carriage until they are aligned.

Attach the hoop to the carriage.

5. Mark the fabric with reference lines, matching them with those on the template, and set the fabric in the embroidery hoop.



- If you have been sewing programmed letters/numbers and then stop the machine, if you then press the clear key, go back key or any design key.
- When the power switch is turned off.

4. In the following cases, the entire program is cleared:

3. If an incorrect operation is performed in programming, an electronic alarm will sound.
2. If you accidentally select an incorrect design/letter/number, press the clear key. The incorrect design will be cleared.
1. Prior to programming, delete the previously programmed letters by pressing the clear key. For a long program, it is advisable to write down the programming procedure in order to avoid an error.

- \* An electronic alarm will sound when the memory is full.

### Notes on Programming (in Embroidery Mode)

(You may sew a design section out of sequence.)

**How to Skip on 100 Series EnVision Cards**

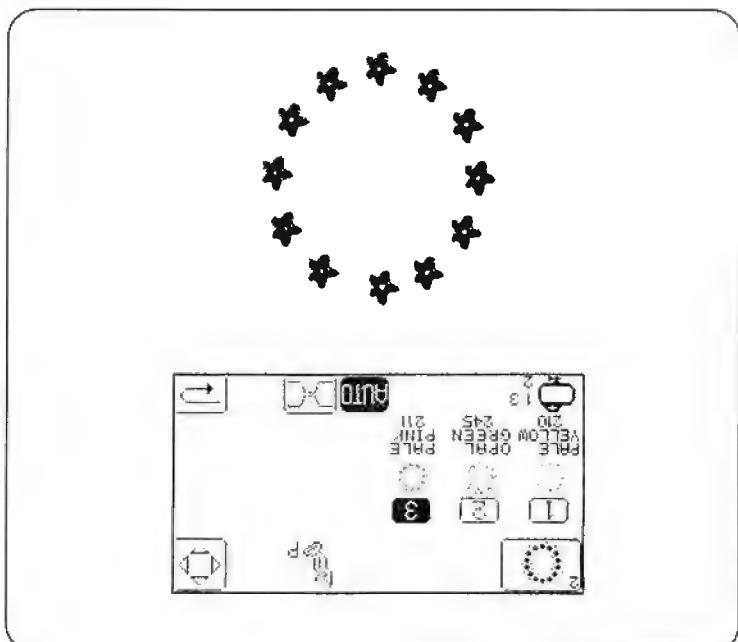
**Example: Card 102**

1. Select design .
2. You would like to sew only section 3. Press the key indicating section 2. The machine has skipped to section 3.
3. Sew sample.

Press  key.

Press  key.

Turn off machine.

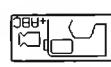


**SECTION IX**

**Edit Design Mode**

It is possible to combine designs contained on one or more cards.

Insert Envision Card 101.

Press  key.

The appropriate hoop(s) is/are indicated on the screen for a few seconds and then the design selection screen appears.

**Combination of Designs**

**Example: Block Style Letters and Border Designs**

1. Memorize "Be-B" in block style.

2. Press the edit key .

3. Shift the design to the appropriate position by pressing the  keys.

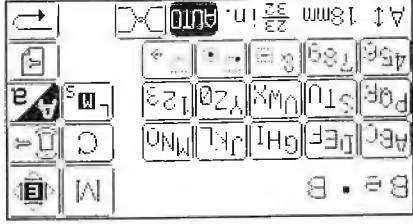
4. Press .

\* If you make a mistake or want to start over, use the  key to clear the screen.

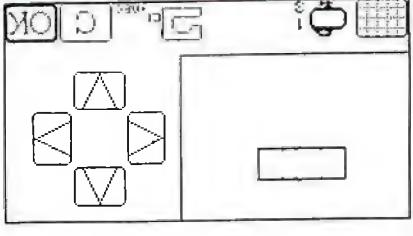
5. Sew sample.

\* Press the  key after sewing is complete.

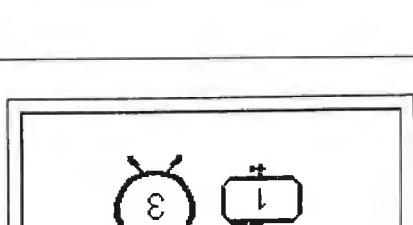
**① (2)**



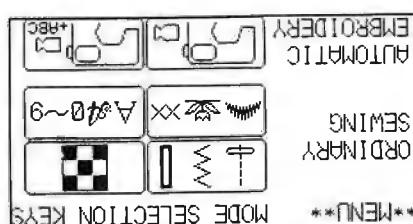
**② (3)**



**③ (4)**

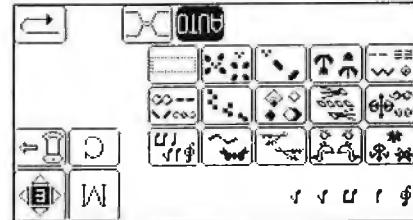


**④ (5)**

**\*\*MENU\*\* MODE SELECTION KEYS**

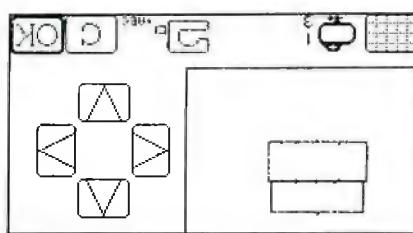
6. Memorize the border designs 



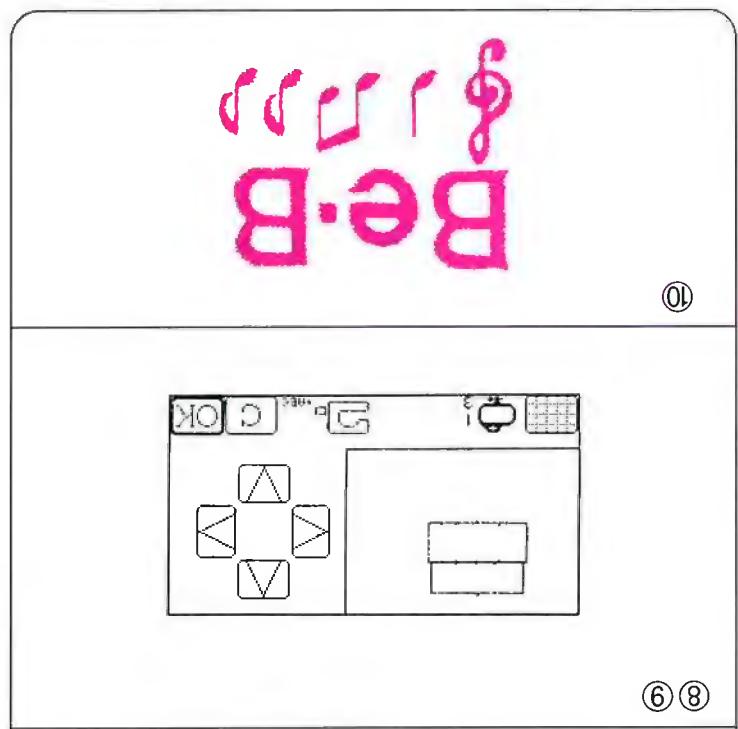
(6)

7. Press the  key.

8. Shift the design to the appropriate position to combine with the design previously sewn by pressing the  key.



(8)



10. Sew sample.



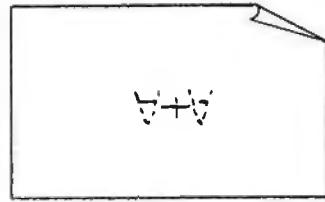
(10)

### How to Center a Design

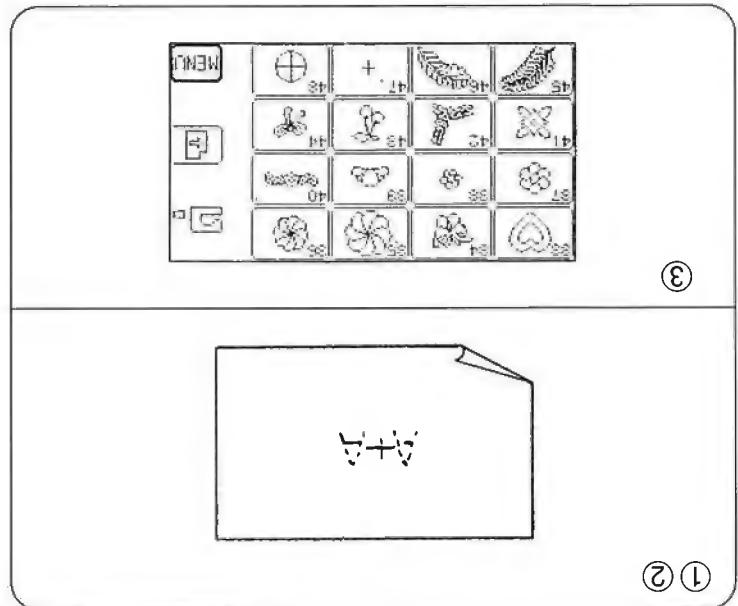
1. Mark the center on the fabric.

2. Set the fabric in the embroidery hoop and attach the hoop to the carriage.

3. Insert EnVision Card 102. Turn on the machine and select design .



(1)



(3)

10. Press the **START/stop** key.

9. Use the keys to move the rectangle on the screen so that the "+" is exactly in the center. Press the **OK** key.

8. Memorize the word "POP" in script style and press the key.

7. Turn off the power switch and insert EnVisions Card 101.

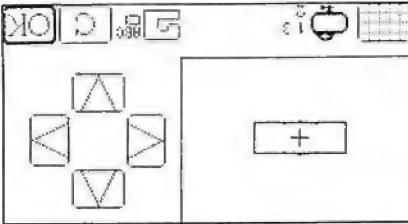
6. Press **OK** key. Press **START/stop** key. The machine will sew one stitch and automatically stop.

5. Use the keys to move the carriage until the "+" mark on the fabric is directly under the needle.

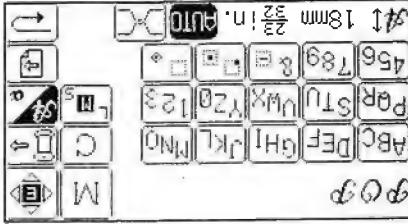
4. Press the key.



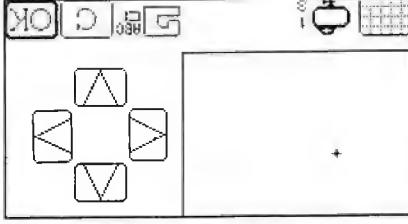
(10)



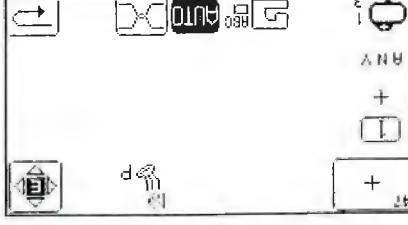
(9)



(8)



(7)



(6)

(5)

Lower presser foot. Press **START/stop key**.

Press the **◀▶** key. You will probably need to press the key more than once to align the needle position to sew before the thread breaks.

Rethread the machine.

**NOTE:** Before pressing **◀▶** keys, make sure the needle is at its highest position.

\* Press the **→** key after using the **◀▶** or **◀▶** key.

- The hoop is moved forward 10 stiches each time the key is pressed.

Pressing this key moves the hoop forward without sewing. The key is used for correction when the hoop is moved backwards too far.

**◀▶ Frame Advance Key**

\* The hoop is moved backward 10 stiches each time the key is pressed.

- This key is used to reposition the hoop after the thread breaks. By pressing this key, you can move the hoop backward to the point where the thread broke.

**◀▶ Frame Return Key**

Press the **◀▶** key and the display will change to show **◀▶** and **◀▶** keys.

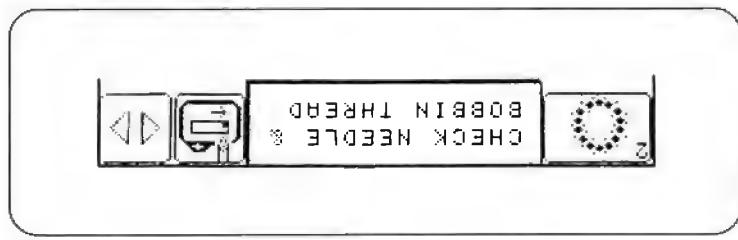
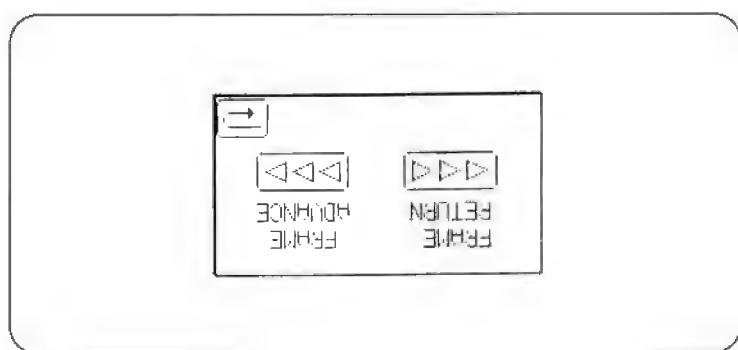
**◀▶ Frame Position Key**

If you have started the machine and, in the middle of sewing a word (or some other design) you want to reposition the hoop/fabric and sew again from the beginning of the word (design), press the **◀▶** key.

**◀▶ Beginning Key**

The thread sensor will automatically stop the machine if the needle breaks while embroidering. Use the **◀▶** or **◀▶** key before rethreading.

**Thread Breaks While Embroidering**



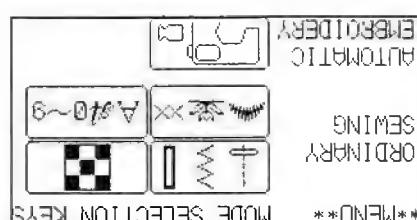
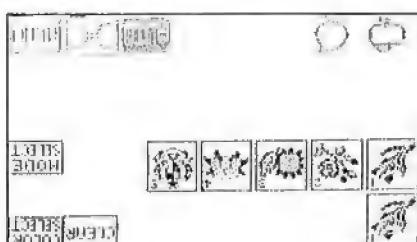
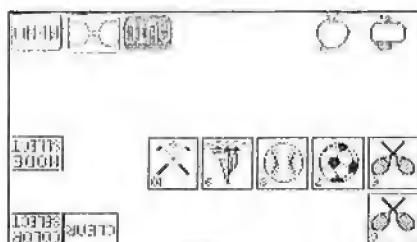
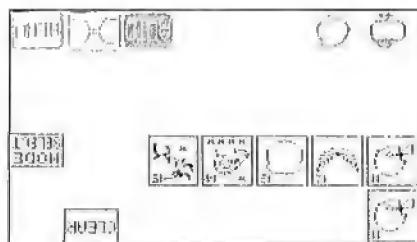
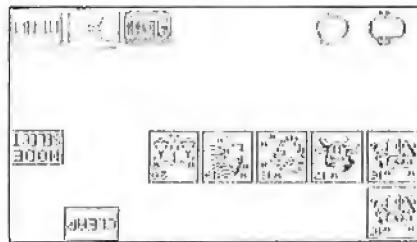
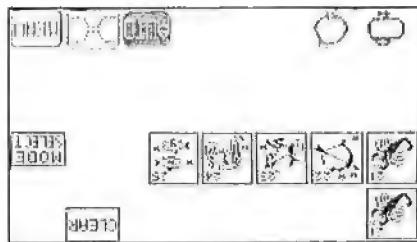
**SECTION X**

**Alternative EnVision Cards**

EnVision Cards Available For the Elma 9006 Model  
May Be Used in the CE-20

**Example: EnVision Card 2**

1. Insert EnVision Card 2.  
2. Press  key.  
3. Press  key to alternate between five display screens.



**NOTE:** Skipping is not an option with these cards.

Completed.

Continue using same method until design is  
changed thread color and sew next section.

7. Press **START/stop** key. Machine will sew section 1  
and automatically stop.

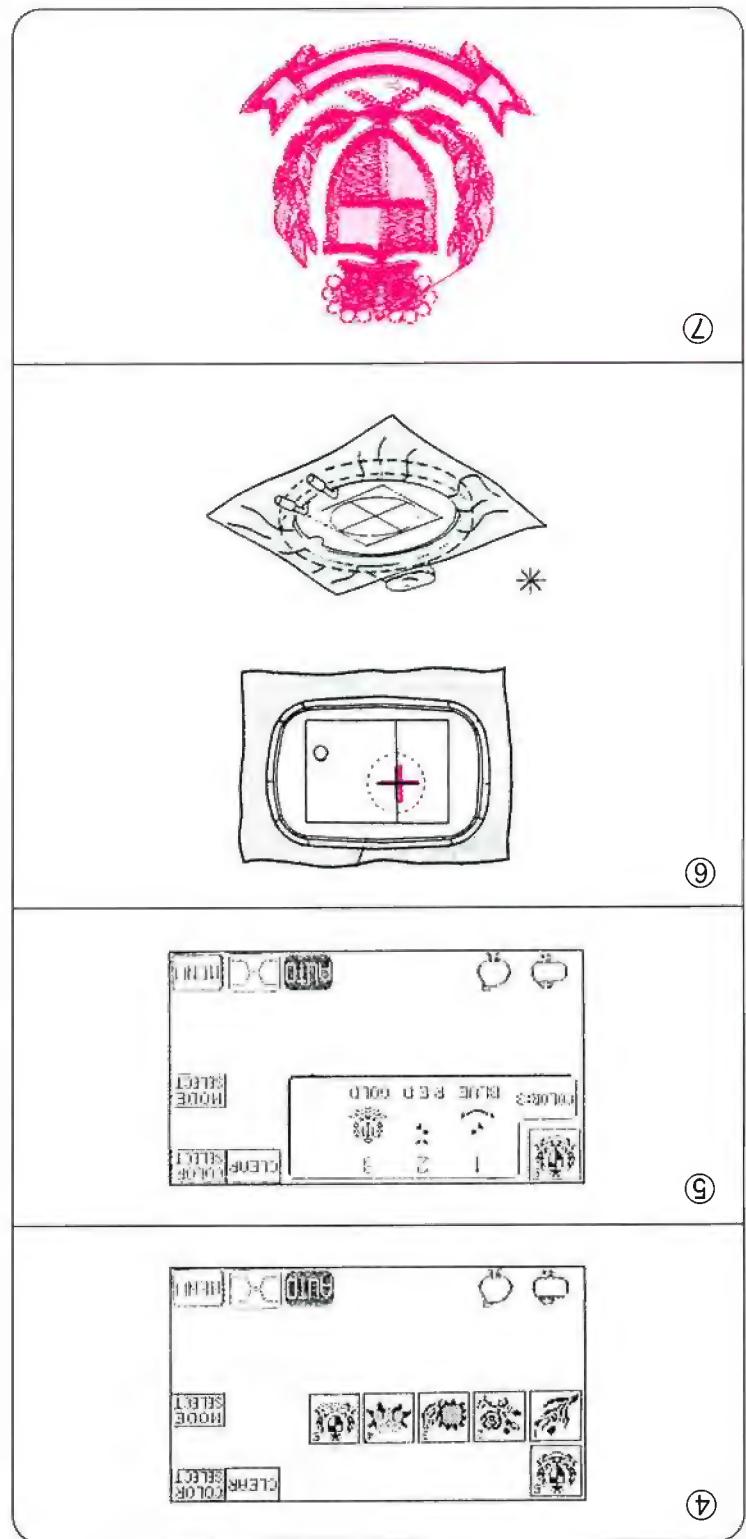
\* We recommend using the round embroidery  
hoop (optional).

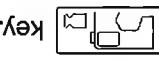
6. Mark the fabric with reference lines, matching  
them with those on the template. Set the fabric in  
the embroidery hoop and attach the hoop to the  
carriage.

\* If you do not press the color select key, the  
design will be sewn without the machine  
automatically stopping for thread changes.

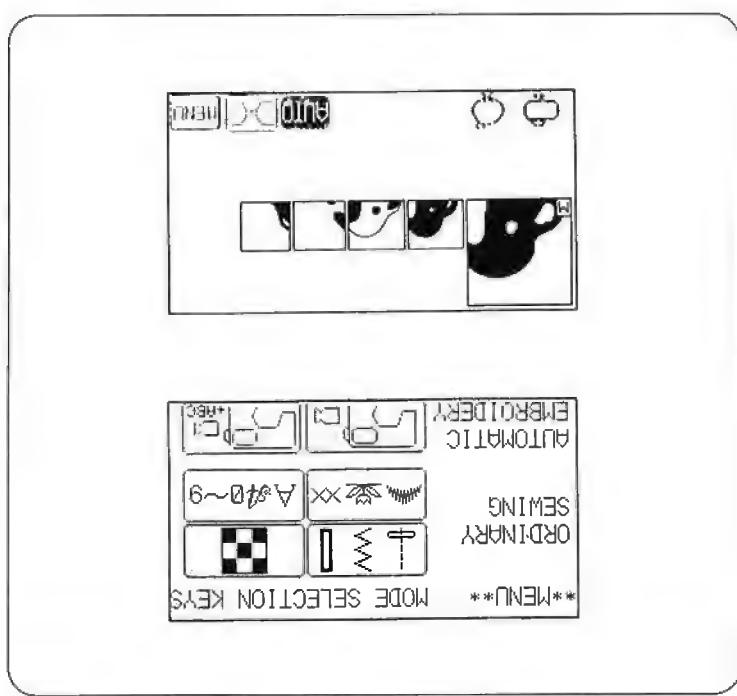
5. Press the color select key if it is shown as an  
option. Screen will show sewing sequence and  
suggested thread colors. (Some designs are either  
one or two colors and the color select key will not  
be shown.)

4. Select design  by pressing the display  
screen.



1. Insert the scanner EnVision Card.
2. Press  key.
3. Sew sample using same method as normal embroidery.

An Optional Scanner is Available for  
the Elna CE 20



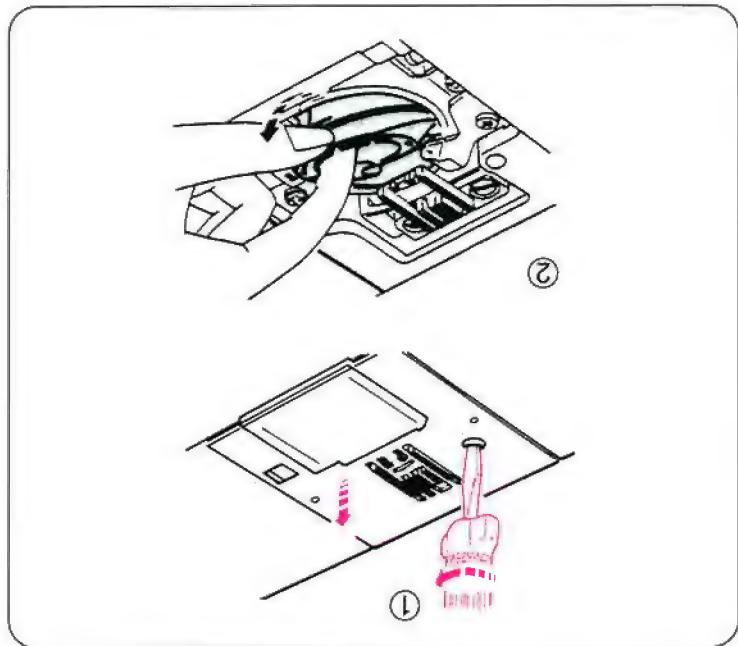
The Elna CE 20 Envision has been meticulously designed and manufactured to give you a lifetime of sewing pleasure. Do not store the machine in a high humidity area, near a heat radiator or in direct sunlight. The machine is self-lubricating, however, the area around the bobbin and hook must be cleaned and thread breakage during stitching. Check for lint buildup after each garment is completed. Loose threads and dust may cause puckerred stitches raised. Up/down needle key until the needle is raised. Uplifting the machine before cleaning.

**Cleaning the Bobbin Area**

- ① Remove the bobbin cover plate by sliding the bobbin cover plate release button to the right.
- ② Take out the bobbin, brush out dust and lint. (You may also use a small vacuum cleaner.)
- ③ Insert the bobbin and attach the bobbin cover plate.

② Remove the needle plate. Lift up and remove the needle and bobbin. Remove the screw on the left side of the needle plate using the screwdriver supplied with the machine.

② Remove the needle plate. Lift up and remove the bobbin case.



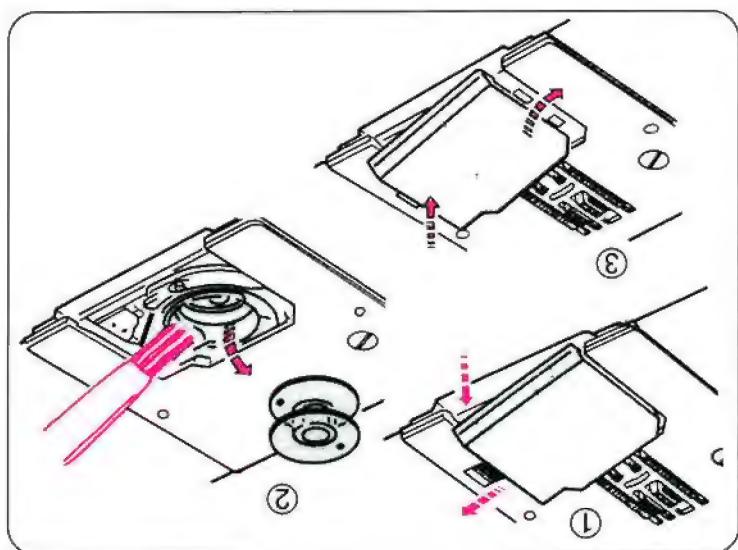
#### Cleaning the Hook Area and Feed Dog

③ Clean the outside of the machine with a soft cloth and pure soap. Each time the machine has had extensive use, clean the bobbin and hook must be cleaned each time the bobbin and hook must be cleaned.

**Cleaning the Hook Area and Feed Dog**

- ① Remove the needle plate by sliding the needle plate release button to the right.
- ② Take out the needle and bobbin. Remove the screw on the left side of the needle plate using the screwdriver supplied with the machine.
- ③ Insert the needle and bobbin and attach the needle plate.

② Remove the needle plate. Lift up and remove the needle and bobbin. Remove the screw on the left side of the needle plate using the screwdriver supplied with the machine.



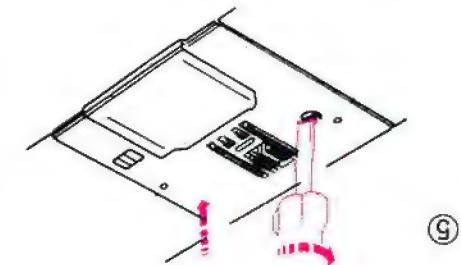
The Elna CE 20 Envision has been meticulously designed and manufactured to give you a lifetime of sewing pleasure. Do not store the machine in a high humidity area, near a heat radiator or in direct sunlight. The machine is self-lubricating, however, the area around the bobbin and hook must be cleaned and thread breakage during stitching. Check for lint buildup after each garment is completed. Loose threads and dust may cause puckerred stitches raised. Uplifting the machine before cleaning.

#### Care of Your Machine

## SECTION XI

**Cleaning the Hook Area and Feed Dog (cont'd)**

③ Clean the feed dog and hook area with the lint brush. Wipe out gently with soft, dry cloth. (You may also use a vacuum cleaner.)

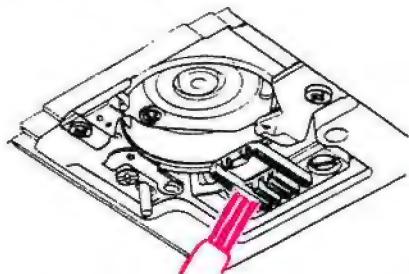
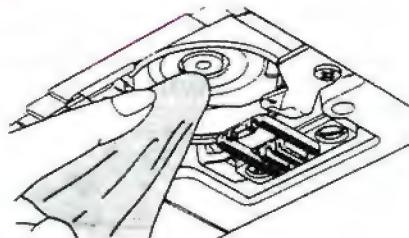
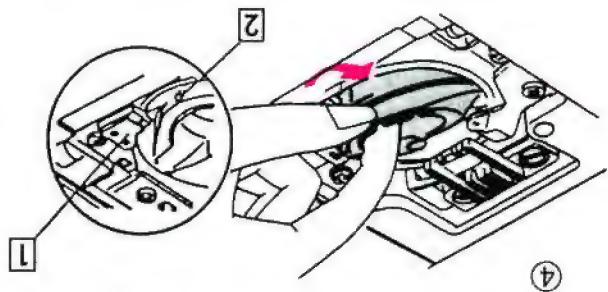


④ Replace the needle plate, inserting the two needle plate guide pins into the holes in the needle plate. Replace the screw.

- Knob
- Stopper

⑤ Insert the bobbin case so that the knob fits next to the stopper in the hook area.

#### Replacing the Bobbin Case



Condition	Type of Sewing	Cause	Reference
The machine is noisy.	All	1. Threads have been caught in the hook area. See pages 95-96. 2. The feed dog is packed with lint. See pages 95-96.	
The needle thread breaks.	All	1. The needle thread is not threaded properly. See pages 17-18. 2. The needle tension is too tight. See pages 24-25. 3. The needle is bent or blunt. See page 8. 4. The needle is incorrectly inserted. See page 8. 5. The thread is too heavy for the needle. See pages 11, 74. 6. The needle thread is not placed correctly under the bobbin. See page 11. 7. The needle thread is not placed correctly in the bobbin case. See page 16.	
The bobbin thread breaks.	All	1. The bobbin thread is not threaded properly in the bobbin. See page 16. 2. Lint has collected in the bobbin case. See pages 95-96. 3. The bobbin is damaged and doesn't turn smoothly. Use an undamaged bobbin.	
The embroidery doesn't work.	Embroiider	1. The needle is in a lowered position. See page 91.	
The embroidery screen is not clear.	All	1. The lighting of the computer display screen is not adjusted properly. See page 7. <td></td>	
Keys don't work.	Embroiider	1. The EnVision Card is not inserted properly. See page 77.	
Skipped stitches.	All	1. The needle is incorrectly inserted. See page 8. 2. The needle is bent or blunt. See page 8. 3. The needle and/or threads are not suitable for the fabric being sewn. See pages 11, 74. 4. A stretch needle is not being used for sewing stretch, very fine fabrics and synthetics. See page 8. 5. The needle thread is not threaded properly. See page 11. 6. The wrong needle is being used. See pages 17-18. 7. The foot pressure dial is not adjusted correctly. See page 11. 8. The embroidery hoop is not attached properly. See page 76. 9. The fabric is not pulled taut in the embroidery hoop. See page 76. 10. You are trying to sew the design twice for heavy thread coverage. See page 86. 11. Use interfacing for fine or stretch fabrics. See pages 35, 39, 74.	
Slipping fabric.	Ordinary Embroidery	1. The correct presser foot is not being used. See page 6. 2. The foot pressure dial is not adjusted correctly. See page 6.	

Condition	Type of Sewing	Cause	Reference
Sewam puckering.	All	1. The needle thread tension is too tight. See pages 16-18. Decrease stitch length. See page 11. See pages 24-25.	7. Use interfracing for fine or stretch fabrics. 6. The fabric is not pulled taut in the embroidery hoop. (When sewing extremely lightweight fabrics, place stabilizer underneath the fabric.) 5. The foot pressure dial is too long for the fabric. 4. The stitch length is too large for the fabric being sewn. 3. The needle is too bobbin thread is not threaded properly. 2. The needle thread is too bobbin thread is not threaded properly. 1. The feed dog is packed with lint. See pages 95-96. Increase stitch length. See page 6.
The fabric is not smoothly.	All	1. The feed dog is packed with lint. See pages 95-96. Increase stitch length. See page 6.	7. Use interfracing for fine or stretch fabrics. 6. The fabric is not pulled taut in the embroidery hoop. (When sewing extremely lightweight fabrics, place stabilizer underneath the fabric.) 5. The foot pressure dial is not adjusted correctly. 4. The stitch length is too long for the fabric. 3. The needle is too large for the fabric being sewn. 2. The needle thread is not bobbin thread is not threaded properly. 1. The feed dog is packed with lint. See pages 95-96. Increase stitch length. See page 6.
The machine doesn't run.	All	1. The machine is not plugged in. See page 12. Turn machine off again. See pages 95-96. Increase stitch length. See page 6.	3. A thread is caught in the hook area. 2. The machine is not plugged in. See page 12. Turn machine off again. See pages 95-96. Increase stitch length. See page 6.
The machine sews when machine switched on.	All	1. Some stitching is caught between carriage and machine. Remove the object. See pages 26, 74. Turn machine off again. See pages 5-44, 60, 69. Increase stitch length. See page 5.	3. The carriage is touching something around the machine. Turn machine off just as the carriage touches the feed dog lever. 4. The correct presser foot is not being used. See computer display. See pages 24-25.
Stitches are distorted.	All	1. The correct presser foot is not being used. See computer display. See pages 5-44, 60, 69. Increase stitch length. See page 5.	2. The needle thread is too tight. See computer display. See pages 5-44, 60, 69. Increase stitch length. See page 5.
The automatic buttons hole stitches are not balanced.	Ordinary Embroidery	1. The stitch length is not suitable for the fabric being sewn. See page 42. See page 39. Increase stitch length. See page 42. See page 44.	4. The fine adjustment dial is not set properly. 3. There is a gap between the slider and spring holder. 2. The bobbin winder spindle is in the winding position. See page 15. See pages 69, 79. Turn machine off again. See pages 13, 77, 78.
Computer keys don't work.	All	1. The letter size and amount of characters are beyond the capacity of memory. See page 15. See pages 69, 79. Turn machine off again. See pages 13, 77, 78.	3. The control circuit is not working correctly. 2. The bobbin winder spindle has not been properly selected.

### **Troubleshooting (cont'd)**

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